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MACFORMAT ISSUE 41 ■ SEPTEMBER 1996 ■ INTO THE DIGITAL DOMAIN • SCANNERS & DIGITAL CAMERAS • DIRECTOR 5.0 • LET'S KISS • NOT JUST ANOTHER FLIGHT SIM

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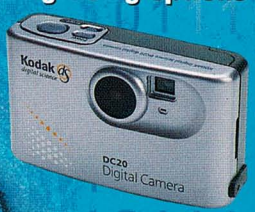

Director 5.0

We test the latest version of the top multimedia creator

Not just another flight sim

The definitive helicopter sim game? We take *Apache Longbow* for a spin

Let's KISS

(It's the name of a spreadsheet. No, honestly. Would I lie to you...?)

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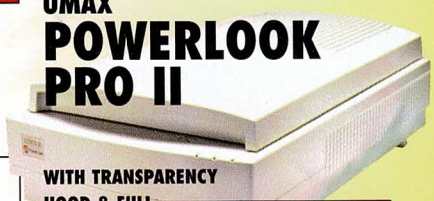

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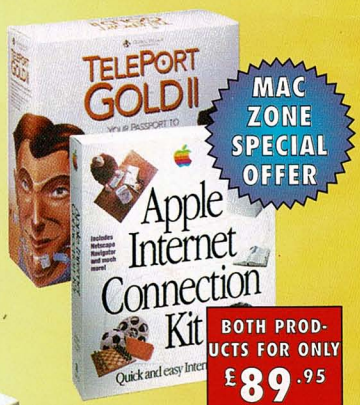

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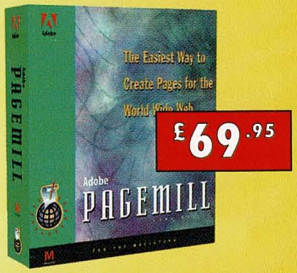

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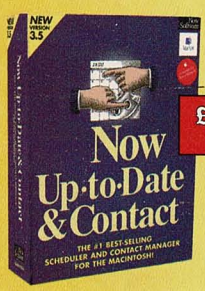

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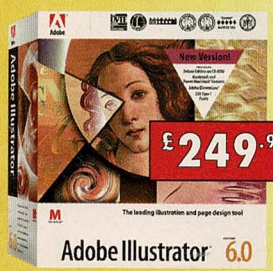

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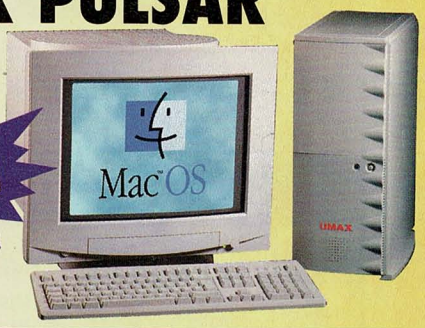

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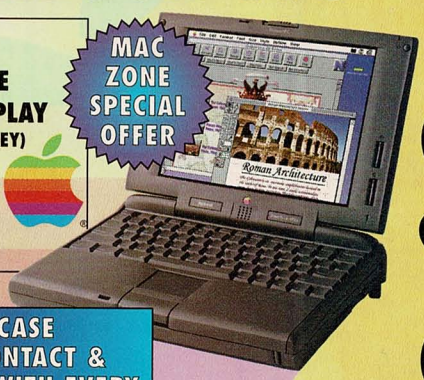

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MACFORMAT

ISSUE 41 ■ SEPTEMBER 1996

The Finder

REVIEWS A-Z

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Would you take a walk into the Garden of Eden with this man?

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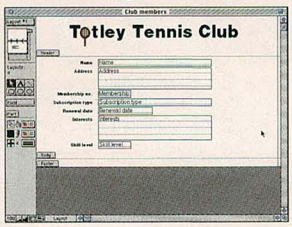
HOW TO...

Handle foreign graphic files 72

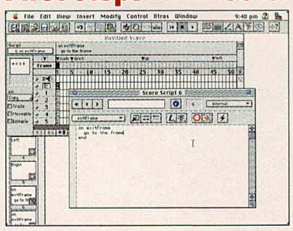
Graphics files from PCs or the Internet might be in all sorts of awkward formats – we explain how they work and show you what you can do with them in order to use them.

Mail merge with your database 76



Your database isn't just for storing information, you can make it work for you too. We show you how easy it is to automate mail-outs in *ClarisWorks* or *FileMaker*.

First steps in Director 94



To accompany our review of the new, improved *Director 5.0*, a step-by-step guide to creating your first interactive movie using our Cover CD demo.

WIN! WIN! WIN!

Three Microtek E3 scanners 138

After you've read our eye-opening cover feature, you'll be itching to get started on your own digital imaging projects. There's no better way to begin than by winning one of three Microtek E3 colour flatbed scanners, up for grabs courtesy of Microtek and distributor Computers Unlimited. Capable of scanning all your images at 300 x 600 dots per inch, the Microtek E3 is worth over £320 – and you could win one right here!

REGULARS

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A twisted look at the MACFORMAT regulars, plus a glimpse at our own favourite digital possibilities.

Your Web Pages 14

Your guide to what's happening on-line. Growing fast, the capabilities of the new *Shockwave* software are opening up whole new areas on the Web.

News 19

Apple turns the corner; how a PowerBook will save the world – twice; Mac designers scoop Web awards; and what *is* the word's most popular piece of software?

What's New: product news 24

A fresh approach to drawing from the maker of *Painter;* Peter Gabriel's new CD-ROM project; the new RAM *trebler* and a first look at ten hot games due on the Mac soon, from footie to *The X-Files!*

Apple Talk: letters 30

Why the Net is *not* where it's at, the secret of the Mac's appeal, why you *don't* need to buy a new Mac, and more Silly Things Your Mac Says...

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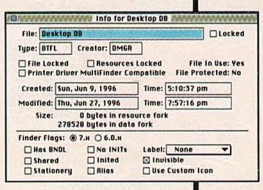
Why fight through the crowd at the newsagent's every four weeks? Subscribe and get a gift to boot!

MacAnswers 78



Is your Mac getting forgetful in its old age? Are you having problems with your printer? Suffering from strange goings-on in your System? Let our experts take the strain and solve your problems.

Back Issues 115

Has the dog eaten your prized copy of MACFORMAT? Replace it (the magazine, not the dog!) using our back issues service – but act fast, while they last!

Free Reader Ads 129

More second-hand Mac bargains than you could shake a jolly big stick at...

Buying Advice 132

Before letting your pocket money slip through your fingers, read our helpful shopping advice.

Classic System Crew 132

What will they get up to next? Turn to page 132 to find out what's up in the Classic's System this issue.

Next Issue 137

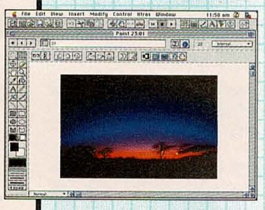
In just four short weeks, we'll be doing it all again! Holidays? *Hah!* Sleep? That's for *wimps!*

REVIEWS

Reviews section 83
Our ratings and review policy.

Scanners and digital cameras 84
We test a representative range of the best affordable graphic input devices you can attach to your Mac, including the new 'fun' digital camera bundle from Kodak.

Director 5.0 94



Macromedia Director, the Mac's leading multimedia creation package, has just undergone a major upgrade. Does it still have what it takes to set the pace and keep it ahead of the multimedia authoring field?

Let's KISS 98
A revolution in the world of spreadsheets, *Let's KISS* looks set to make your life much easier.

WebArranger 100
Need to organise your Web surfing? Struggling to keep track of all those URLs? Try this clever utility.

TextBridge Pro '96 102
Top of the range optical character recognition.

CDs your kids can count on 106
Maths can be fun! Our National Curriculum expert assesses mathematical multimedia for children...

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Music: Peak 116
New developments in digital audio editing and processing on your Mac.

Shareware delights 118
Groovy games, beautiful buttons and a cat clock? Once again, the mysteries of shareware revealed...

Game reviews 122
An amazing helicopter sim, and a new battle game involving clockwork toys – surely it's a wind-up?

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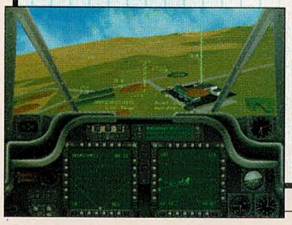
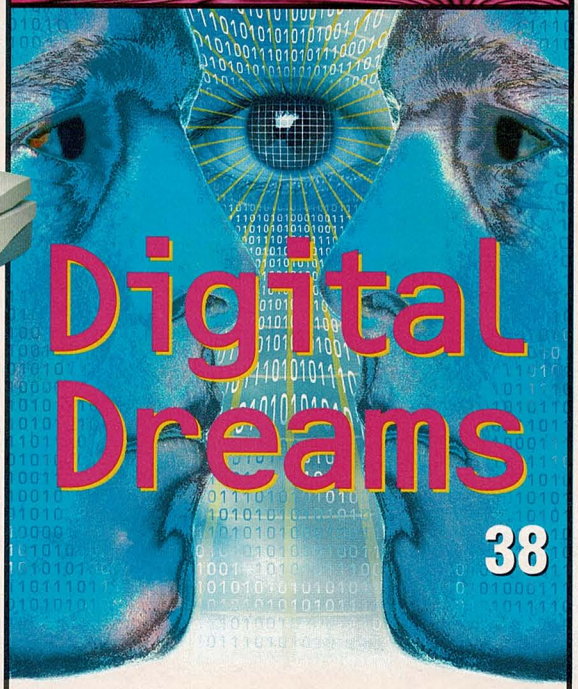


FEATURES



Digital Dreams

38

Everything you ever wanted to know about digital image manipulation on your Mac! Discover how much you can do with digitised images, which software is right for you, and how the professionals create the effects you've marvelled at in those ads!

- How to go digital 40
- Image editing software 46
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Can a CD teach you to see creatively and take better pictures ?
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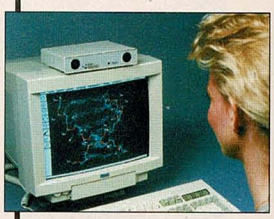


Move the cursor just by moving your head – the future of the Mac?
See page 66

Enabling the future 66
Tomorrow's technology is already here! In our continuing series on the Mac as an enabler, we discover how innovative technologies are being used to help people with disabilities use their Macs – and possibly give us all a glimpse of how we might all be controlling our Macs in the future.

YOUR COVER DISK

MACFORMAT comes in a CD-ROM edition or high-density floppy disk edition every issue:

Your Cover CD-ROM 8
Try digital image editing with usable demos of *Photoshop 3.0.5*, *Specular Collage*, *DeBabelizer* and *Director 5.0*, plus exclusive *Kai's Power Goo* movies, a multimedia *Illustrator 6.0* tutorial, game demos including *Hexen* and *Pro Pinball*, 130Mb of shareware, and everythng below...

Your Cover Disk 12
Graphics utilities including the full *DeBabelizer Lite LE*, *PICTify* and *GifBuilder*, some handy time-saving utilities including a disk cataloguer and graphics viewer, as well as *Super Othello* and *Poing!*

Welcome to MACFORMAT

Everything you wanted to know about MACFORMAT, plus our own views on digital art and what to digitise now...

ABOUT OUR WRITERS

ALEX SUMMERSBY

Our Ed learned about Macs by using them and reading all he could find about them. He recalls a *Photoshop* ad that Adobe ran in the US press, showing a man *swimming* down a winding road. Unforgettable! But what's the message – using *Photoshop* is as easy as swimming in tarmac?

RICHARD HILL

Digitised images are old hat to our up-to-date News Ed. He says *sleep* should definitely be digitised – 'then I'd be able to load up Sleep(™) whenever I needed it. But to do it right you'd need a really big hard drive, which would also be much better for your back than a soft drive.'

COLIN DALZIEL

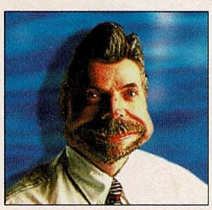
As Disc Ed, Colin knows all about digital media, but now, with the help of digital technology, he'd like to see digital food. 'With a Mac connected to a microwave oven, I could have a chicken curry which tastes exactly the same as the one from my favourite curry house in Bradford. Lovely!'

LINDSAY BRUCE

Our Technical Writer says he wishes he could digitise himself. Then, he says, 'I could make as many copies of me as I liked, and get the copies to write next issue's feature. Or I could make myself more handsome in *Photoshop*, with bigger muscles and... er, you get the picture.'

DEREK SMITH

Our technical expert reckons the most graphic things he's ever seen on his Mac are some photos he found one day on the Internet. He hopes there was some *Photoshop* retouching on the one called 'Big Ben' – otherwise he feels rather inadequate with his small floppy drive.



ROD LAWTON

Our 'serious' specialist asks: 'Why can't we have on-the-fly JPEG compression/decompression built into DTP software and imagesetters so you don't have to shunt multi-megabyte scans over networks or buy costly optical drives?' (Sorry. Rod never did grasp the art of *double-entendre.)*

YOU?

Do you have expert knowledge of some area of the Mac – say, oh, graphics or education? Can you write clear, literate, conversational, entertaining copy? If it's yes to both questions, write or phone about writing for us freelance. And no, you don't *have* to match the silhouette.

ABOUT MACFORMAT

Welcome again to MACFORMAT, Britain's best-selling Macintosh magazine. Every issue we bring you:

- Tips, techniques and tutorials covering the range of Mac applications, from graphics, spreadsheets and databases (and *ClarisWorks!)* to music, multimedia and games.
- Features about exciting Mac developments and novel uses, accompanied by Cover Disk programs whenever possible, so you can discover what your machine can do and try things you mightn't have tried before.
- All the latest Mac-related news, plus all you want to know about the wider issues, the people behind the headlines and the stories behind the stories.
- Authoritative reviews of interesting and affordable products, with clear buying recommendations.
- Cover Disks and CD-ROMs with demos so you can try software before you buy, useful utilities (specially chosen to complement features in the magazine), selected shareware programs, games, readers' contributions and much more.

Whether you're a veteran or a novice, we'll help you get more out of your Macintosh, whatever you use it for.

- MACFORMAT welcomes contributions for publication but we regret we cannot return them. Submissions are accepted on the basis of full assignment of copyright to Future Publishing Ltd, *unless* otherwise agreed in advance and in writing. We'll assume that all correspondence is for publication and all CD-ROM demos or readers' submissions may be incorporated on a Future Cover Disk/CD-ROM unless you expressly say otherwise in writing. See also p. 31

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ABOUT OUR REVIEWS

Every MACFORMAT review is designed to inform you in detail of what you'd be getting if you bought the product and help you decide whether it's worth your money. It tells you the essentials, without jargon.

MACFORMAT *does not review demos or unfinished programs.* We review only the finished products you could buy yourself, to help you decide whether to buy or not. We give clear buying recommendations, and rate products on this scale:

- 80+% means excellent.
- 70+% means well worthwhile, though not really outstanding.
- 60+% means good, but with a few shortcomings or some limitations.
- 50+% means acceptable but flawed.
- A rating below 50% means you should think carefully before parting with your money.

The MACFORMAT Classic Award

If a product earns a rating of 90% or more, we'll give it a MACFORMAT Classic Award. This means what it says: we judge the product to be a classic, a standard-setter of its type, something really special.

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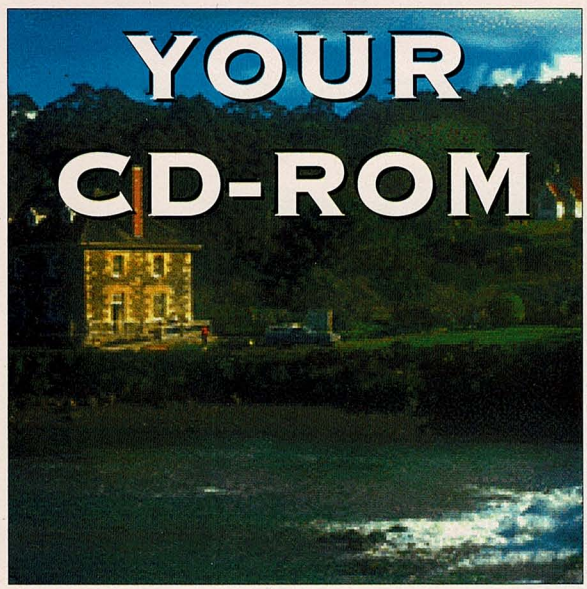


Bleary-eyed after spending many nights rounding up shareware and demos from all over the world, Colin Dalziel can now sit back and enjoy this issue's Cover CD.

The stars of this issue's Cover CD are the graphics demos which enable you to try out the digital imaging software mentioned in this issue. There's lots of other stuff too, including demos of 12 packages, sample 'Goovies' and over 130Mb of the latest shareware.

- **Demos:** the latest trial versions of top quality software, including multimedia creation applications, training software, kids' multimedia, presentation software and games.
- **Goovies:** exclusive sample movies from the hot new graphics manipulation package *Kai's Power Goo.*
- **Graphics demos:** top image manipulation and conversion packages.
- **MACFORMAT 41 Browser:** view the contents of this issue's Cover CD.
- **Photo Library:** a point-and-click reference to over 400 images.
- **Floppy:** all the files from this issue's HD version, including some great System enhancements.
- **Readers' Corner:** great artwork and software from MACFORMAT readers.
- **Resources:** essential Mac software including latest versions of *Adobe Acrobat* and *GraphicConverter.*
- **Shareware City:** Over 130 Mb of the very latest shareware and freeware, hot from the Internet.
- **Shareware in MACFORMAT:** all the shareware reviewed in this issue of MACFORMAT, starting on page 118.

FLOPPY OR CD?

MACFORMAT is available in two editions: one with a CD-ROM and one with a high-density floppy disk. Details of the floppy programs start on page 12. The CD contains all the software from the HD Cover Disk, in a folder called Floppy.

RUN TIME!

Some of the demos on the Cover CD require installation on your hard disk – they won't run direct from the CD. Most of these programs use an installer: once you've double-clicked on it, just follow the on-screen instructions and you should be fine. Even if there's no installer, it often helps to copy demos to your hard disk – at the very least they should run faster!

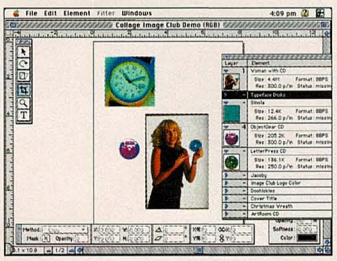
Specular Collage 2.0

Image manipulation demo

Requires: Quadra, 5Mb of RAM, System 7

From the same stable as *Infini-D, Collage* gives you powerful image editing tools, together with the ability to design page layout. This save-disabled demo enables you to try out the high-res capabilities of *Collage* first-hand. To enable you to change high-resolution images in real time, *Collage* works with a low-res screen image, rendering the true version when you've finished.

Supporting alpha channels, layers and large images, *Collage* gives you real power with a familiar DTP-style interface.

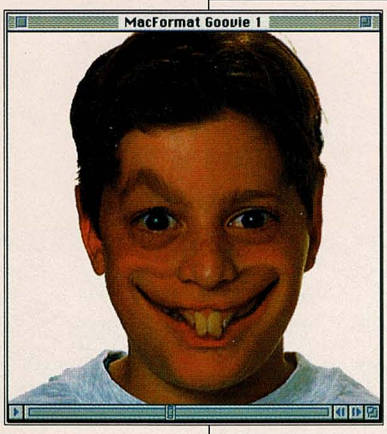


Collage imaginatively combines the best of graphics programs with desktop publishing.

Goovies

Kai's Power Goo movies

Requires: colour Mac, System 7, QuickTime



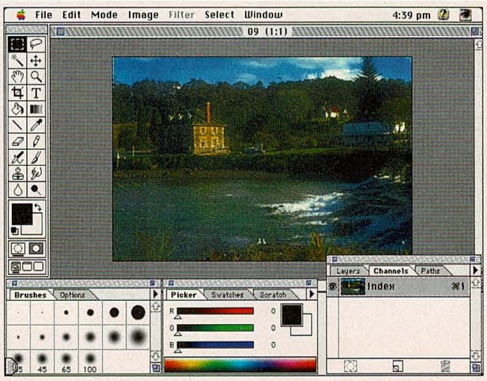
Some great fun movies created with the hottest new graphics package, *Kai's Power Goo.* To play the movies, copy them to your hard disk and drag the movie you wish to view onto the enclosed *Pete's Player.* Then just sit back and enjoy the show. For more information about the amazing *Power Goo,* see our review on page 52.

Adobe Photoshop 3.0.5

Image manipulation demo

Requires: LC or better, 6Mb of free RAM, 20Mb of disk space

The definitive image manipulation package, *Adobe Photoshop 3.0.5* really does set all the standards. With powerful, easy-to-use tools, this package enables you to apply an amazing range of effects to your images. This save-disabled demo will help you follow our step-by-step image editing guide starting on page 54. Whether you're correcting the colour balance of a scan or applying special effect filters, *Photoshop* has the capabilities you need. With the added power of multiple layers the only limitation to manipulation is your imagination!



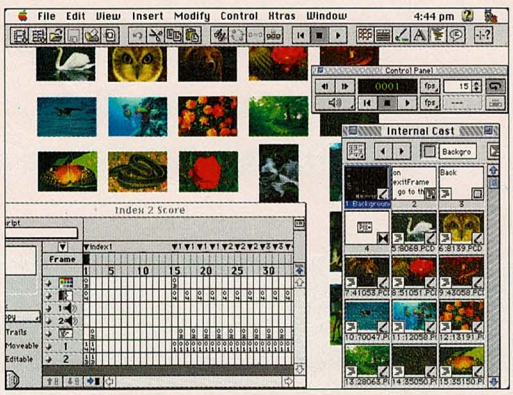
Photoshop is used by more graphics pros than any other art package – the perfect try-out for our cover feature this issue.

Director 5.0

Multimedia creation software

Requires: Quadra or better, 5Mb of free RAM, System 7.1 or later

One of the best-selling multimedia creation packages in the world has recently had a major update. With *Director 5.0* you can assemble interactive productions, for education or entertainment, containing text, graphics, video and animation; it's the choice of the professional. Our save-disabled demo version enables you to explore all the new features of this powerful package. Improvements in this version include better colour support, enhanced text handling, toolbars and better on-line help. If you want to know more about *Director 5.0,* there is a full review on page 94 of this issue, together with a step-by-step guide that shows you how to use some of the basic features of this versatile package.



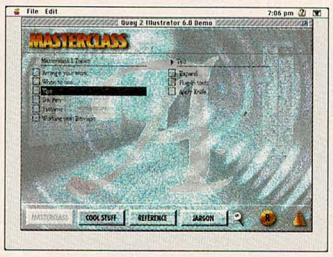
Director 5.0 is one of the most powerful multimedia tools you can buy. Here's your chance to try it for yourself.

Quay 2: Illustrator 6

Multimedia training demo

LC, 4Mb of RAM, 13-inch colour monitor

Computer training can be an expensive and time consuming business, but thanks to the award winning Quay 2 Multimedia firm, you can reduce the cost and time spent learning your favourite packages. *The Quay 2 Illustrator 6.0* training demo shows you how simple learning can be with its easy-to-follow 'watch and copy' style. The software takes each of the topics one step at a time. This demo includes details of new features in the top graphics package *Illustrator 6.0* and a reference guide which takes you through all the menus in *Illustrator 6.0*, along with a handy jargon-busting section. This demo is a great insight into the Quay 2 way of learning, which will help you get more from your software than you ever thought possible.



Quay2 uses a very simple click-and-watch approach to computer training.

Hexen

Shoot-'em-up game demo

Requires: PowerMac, 7.5Mb of free RAM

More first-person 3D action to put you to the test, as we bring you this four-level demo of the recently-released *Hexen*. You must fight to stay alive in a treacherous fantasy world. It's frantic shooting action all the way, with stunning graphics and sound that are sure to get your heart racing. This demo version not only supports single-player mode, but also offers network options. So if you really want to have some fun, get together with some friends, hook some Macs together and see who's up to the challenge. Look out for a full review of *Hexen* in MACFORMAT soon.

Make sure you look out for hidden areas by smashing everything to pieces.

Hexen transports the gung-ho gore of *Doom* into a medieval fantasy land, and it's great.

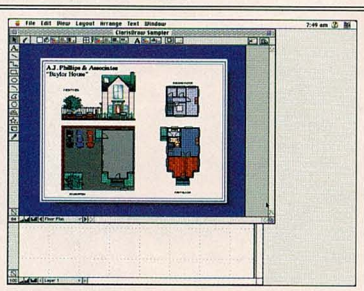
We've got four levels to pound your way through – if you think you're hard enough.

Claris demos

Presentation and drawing demos

Requires: see individual Read Me files for details

We've two great demos from Claris in the shape of *ClarisDraw* and *ClarisImpact*. *ClarisDraw* is a classic Mac drawing package which enables you to create and modify artwork in a straightforward way. This **Save** and **Export** disabled demo enables you to use all the other features, including 24-bit painting, multiple layers and dragable palettes. To see what *ClarisImpact* can offer, take a look at the demo movie *Impact Guy*. Rather than just being a boring tour of the features, this rolling demo uses a comic-book-style story to explain exactly what this impressive presentation package can do.



Hone your drawing skills with this *ClarisDraw* demo – instantly familiar to all *Works* users.

Pro Pinball Demo

Pinball machine simulator demo

Quadra, 13-inch colour monitor, System 7

You can't beat a good game of pinball, and now you don't need to leave your Mac to do it. *Pro Pinball: the Web* is a realistic pinball game which gives you all the control you have over a real table, including the opportunity to give the side a nudge when the ball is on its way out. This demo enables you to try your skill by playing a one-minute game – though of course if you lose the ball the game can be shorter! Just like the real thing, the ball always seems to go straight through the gap between the flippers.

When you've either lost the game or run out of time, you need to quit, using **[command] Q**, if you want to restart the game and have another go. Look out for a review of *Pro Pinball* in MACFORMAT soon.

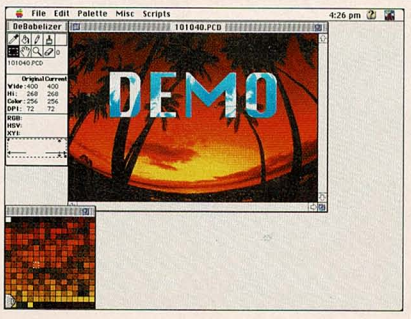
Based on a real table, the first *Pro Pinball* challenges you to take on *The Web*.

DeBabelizer 1.6.5 Demo

Image format conversion software

Requires: any Mac, System 6.0.7 or later

With the explosion of the Internet, the ability to convert graphics files to standard formats, which need to be compact but give you high quality, is becoming more essential than ever. *DeBabelizer* is the perfect solution for altering just about any image format. This save-disabled demo enables you to explore the power of *DeBabelizer*, which includes support for 55 different image formats across a range of platforms.



Graphics file conversion is easy with the help of *DeBabelizer*.

CUSTOM ICONS

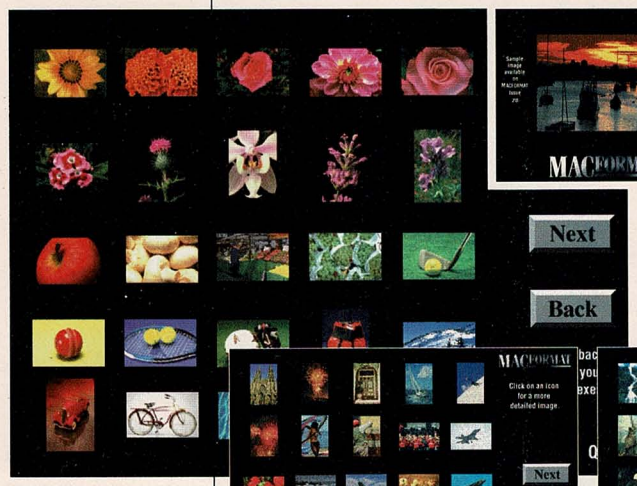
The icons we use on the CD help to give it a friendly atmosphere, but they do slow it down. Install *CDIcon-Killer*, which is in the Resources folder on the CD, if you want to speed things up.

Continued on next page

Photo Library Index

Browser of images from past Cover CDs

Requires: LC or better, 4Mb of free RAM, System 7.1



Simply click on the thumbnail image you're interested in to see it at a larger size (top right).

To help you get the most from your MACFORMAT CD collection we have included a browser that enables you to view over 400 images which have been included on past Cover CDs. You can view both thumbnail images and larger versions which also give you information as to which issue the full sized image appeared in and the company that supplied it. All the images are best viewed on a Mac capable of displaying thousands of colours.

MACFORMAT'S *Photo Library Index* makes it easy to seek out that crucial image from past CDs.

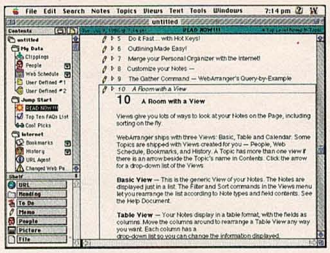
The *Index* gives you over 16 pages to leaf through on your Mac, with over 400 pictures.

WebArranger Demo

Web organiser

Requires: any Mac, 8Mb of RAM, Net access

If you use the Web you'll know that with all the information available now, it's hard to keep everything organised. *WebArranger* fixes this by giving you the necessary tools to put your house in order. You can configure keyboard short-cuts and set alarms to remind you to launch your Web browser at specific times. It will even keep trying a busy site for you until contact is made, as well as organising your Internet bookmarks. This time-limited demo enables you to try out *WebArranger* free for 30 days. Once you get used to this software, you'll wonder how you ever managed to surf the Net without it. Check out our review of *WebArranger* on page 100.

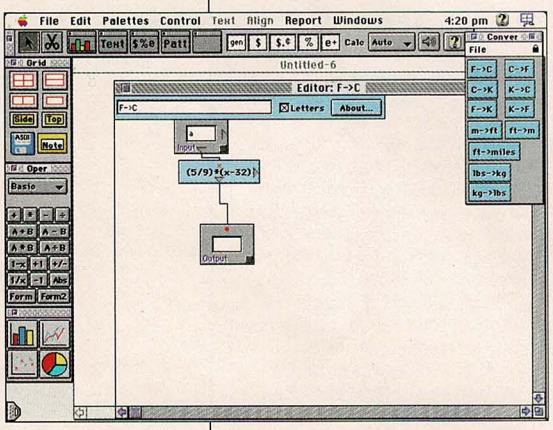


WebArranger is a handy utility to remove the stress from surfing (the Net, that is).

Let's KISS

Spreadsheet demo

Requires: LCII or better, System 7



Let's KISS is the most radical thing the world of spreadsheets has seen in years. An easy spreadsheet...! Whatever next?

Spreadsheets for the Mac are a bit thin on the ground, to say the least, so it's good to see Casady and Greene come up with a new innovation in the shape of *Let's Keep It Simple Spreadsheet*, or *Let's KISS*. It's a new type of spreadsheet, where ease-of-use is the number one priority. This is achieved by enabling you to see on screen all the functions and calculations in flow chart style. This save-disabled demo enables you to explore this new style of spreadsheet and will help you see how easy this package is to use (you can read the full review on page 98). There are sample templates included, which you can customise for your own calculations. Also included is a comprehensive demo manual with walk-throughs and tutorials.

PROBLEMS?

If you have problems quitting any of the rolling demos on the Cover CD, just press **[command] Q** and you should go back to the Finder. If this doesn't work, press **[command] [option] [escape]** to Force Quit.

Kids' multimedia

Multimedia demos

Requires: see individual ReadMe files for details

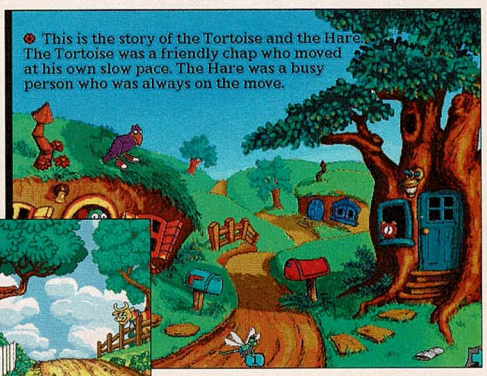
All the way from Denmark comes the *Seaside Sam* demo. This excellent children's storybook has a familiar point and click interaction style which brings the story alive. With both animation and interaction, there's plenty to explore on each of the three pages of this demo version.

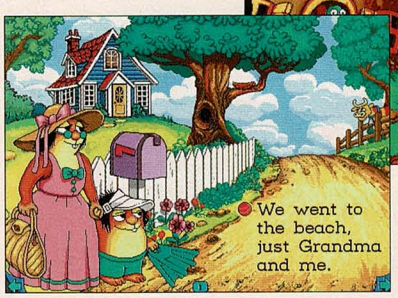
The popular *Living Books* series is currently undergoing conversion to localised versions. Included on the CD are demos of the first two stories to be converted to UK English. These demos enable you to explore scenes from *The Tortoise and the Hare* and *Just Grandma and Me*, with the additional fun of interacting with the animation.

The Tortoise and the Hare is now localised so your child will grow up saying 'chap' rather than the original fable's 'dude' (allegedly).

The children have run on ahead to get to the beach first. "Sam, Sam!" they shout. "Let's stay here, it's the best place on the whole beach."

The characters in *Seaside Sam* are so sweet they've already charmed each other's socks off – yours are next.


This is the story of the Tortoise and the Hare. The Tortoise was a friendly chap who moved at his own slow pace. The Hare was a busy person who was always on the move.



If you're a fan of animated storybooks, you're going to love the *Living Books*.

DON'T LET the fact that we are offering a FREE Mac adapter go to your head.

BUY AN HP DESKJET 340 COLOUR PRINTER AND RECEIVE A FREE MAC ADAPTER CABLE.

The HP DeskJet 340 Colour Printer - the best choice for Powerbook users.

Now you can use your Macintosh Powerbook and connect to the best in Hewlett-Packard printers by using a Macintosh adapter cable, worth £27 RRP+VAT. The HP DeskJet 340 printer provides exceptional quality colour printing with features to enhance your productivity - it can even run off a battery* to be truly mobile.

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HP DeskJet 340 Colour printer

- ***Compact and portable for the mobile user***
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- ***30 page portable sheet feeder***
- ***Small and lightweight***
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Don't let this amazing offer go to your head. Contact the dealers listed - but hurry this offer is only available while stocks last.

DABS DIRECT PERSONAL COMPUTER SYSTEMS
Tel: 0800 680000

Jigsaw
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Tel: 0171 724 4104

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Tel: 0800 393696

HEWLETT PACKARD TAKE COVER Buy HP SupportPack

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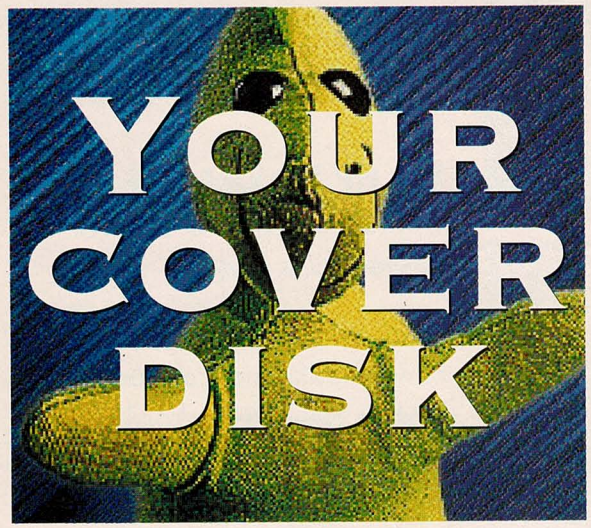


START HERE

High-density floppy disks normally contain up to 1.4Mb of software, but to bring you as much as possible, we use a compression program to fit more on. So you need to decompress the software before using our Disk – this issue you'll need 3.1Mb of hard disk space. We also recommend that you always make a backup of the MACFORMAT Cover Disk, just in case anything goes wrong.

Here's what to do...

Backing up your Cover Disk

1. Ensure that the original MACFORMAT Cover Disk is write-protected (move the tab so that you can see through the hole) and insert it in the disk drive.
2. When the icon appears on the Desktop, drag the Disk's icon over your hard disk's icon. This copies the contents onto your hard disk, but they are still compressed and cannot be used yet.
3. Drag the Cover Disk icon to the Wastebasket to eject the Disk.
4. Now insert a blank, formatted high-density disk. Didn't we mention that you'd need that? Oops.
5. Finally, drag the MACFORMAT 41 folder from your hard disk on to the blank disk's icon to initiate your back-up.

Decompressing the Cover Disk contents

1. To decompress the Cover Disk contents, open the MACFORMAT 41 folder on your hard disk and double-click on the MACFORMAT 41 icon.
2. You'll see a screen telling you about the compression utility we've used. Click **Continue** to go on.
3. A box then asks you where you want to save the software. Choose the place on your hard disk where you want everything stored, and click **Save** to get this issue's programs.

Just a word of warning...

Before installing the Cover Disk, we recommend that you always back up any important work that's already on your hard disk. This precaution will avoid problems should it transpire that any of the software isn't compatible with your set-up.

We make every effort to check our Cover Disks for compatibility and viruses, but the information here is intended as a guide only, and MACFORMAT cannot be held responsible for any damage to data, any inability to use this software or any resulting losses. So please take the precaution of backing up first.

Like sardines packed in a tin, this issue we've got 11 slick software offerings squeezed onto a single disk. Colin Dalziel turns the key to see what's in store...

To help you get the most from this digital imaging issue of MACFORMAT, we've got a great collection of software. There's a 'lite' version of one of the most powerful graphic conversion programs available, some superb utilities to make using your Mac as easy as possible and two taxing games which will really put you to the test.

DeBabelizer Lite LE

Graphic conversion software

Requires: Any Mac, 2Mb of free RAM, System 6.0.7 or later

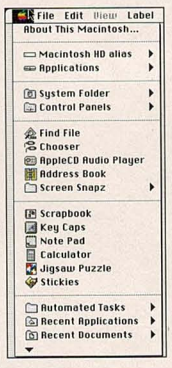
This 'lite' version of *DeBabelizer* enables you to try out some of the powerful features of this incredible graphics conversion software. You can convert images to and from four different formats: PICT, TIFF, BMP and GIF. All four can be created from either Mac or PC images. This makes *DeBabelizer Lite LE* ideal if you want to prepare images for inclusion in Web pages or multimedia projects. You can also easily convert images from disc-hogging 24-bit colour (showing millions of colours) to compact 8-bit files for 256-colour images – all with minimal loss in quality. There are also options to produce Startup screens from your images and many other great features, including LZW compression for TIFFs.

Amico 2.0

Utility

Requires: any Mac, System 7 or later

A simple Extension, **Amico** enables you to arrange your **Apple** menu items exactly the way you want them. You simply place the icons in the Apple Menu Items folder in the same order as you want them to appear in the menu. You can also add dividing lines to group similar items together. You do this by including a folder with a dash as its first character in the Apple Menu Items folder, between the options you want to separate.

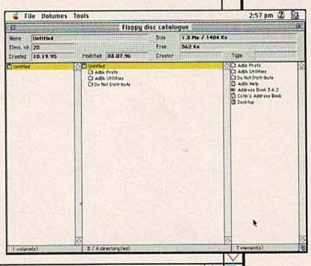


Catalogue 2.0.1

Disk indexing utility

Requires: any Mac, 800K of RAM, System 7

If your disk collection is too disorganised for words, *Catalogue* is the perfect piece of software for getting your house in order. Once you have created your first catalogue, you can just feed your collection of disks one by one into the drive. It only takes a matter of seconds for *Catalogue* to scan each disk and provide you with a detailed list of its contents. Once you have scanned your complete collection, you can use the search facility to quickly locate any file you want.

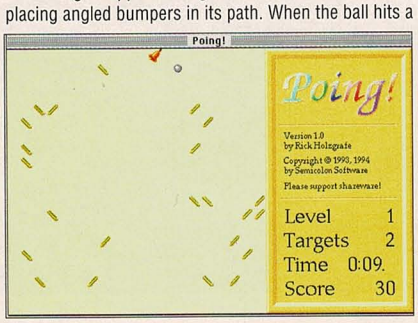


Poing! 1.0

Game

Requires: colour Mac, 600K of free RAM, System 6.05 or later

Poing! will test your timing and hand-to-eye coordination. The game is played on a board on which targets appear. The goal in each level is to hit the targets with a ball. You control the ball by placing angled bumpers in its path. When the ball hits a bumper, it bounces off at a 90° angle.



There are two types of bumpers: one that diverts the ball to the right and one which sends it to the left. To put a bumper on the board, press the slash or backslash keys. The bumper will then appear just ahead of the ball, so the ball hits it and changes direction. It's a race against the clock to remove the targets, so you have to be quick positioning your bumpers. If you're just beginning there's a slow ball option so you can get used to the controls before you try your luck with the full-speed version.

GOT A PROBLEM?

If either your cover-mounted high density disk or CD-ROM is defective, return it to us and we will replace it. Please make sure you have followed the installation procedures described in these pages correctly, to ensure that there is a physical problem with the disk itself. Otherwise, the replacement will be just the same!

Return HD disks to:
TIB plc, TIB House
11 Edward Street
Bradford, BD4 7BH

Return CD-ROMs to:
MACFORMAT CD returns
Andy Pope, Ablex
Harcourt
Halesfield 14
Telford, Shropshire, TF7 4QR

Enclose a self-addressed padded envelope (but we'll pay return postage) with the disk or CD, and a description of the fault. *Please do not return disks or CDs to the editorial office;* we don't hold any stocks of them and can only refer you to the addresses above.

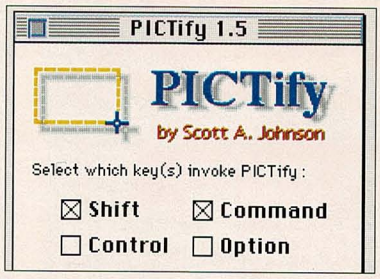
PICTify 1.5

Screen capture software

Requires: any Mac, System 7 or later

As you may already know, it is easy to get a grab or screenshot of your Mac screen by using the **[command] [shift] 3** key combination. The only problem with this method is you get the whole screen rather than just the part you want. The delightfully simple **PICTify** puts that right by giving you the option to crop your screen grabs when you actually take the snapshot.

You can also choose to grab entire individual windows or pull-down menus with the press of a straightforward key combination.



QUIKHIDE

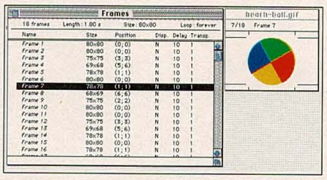
This handy little Extension gives you a 'panic button' that hides the application you're currently using and returns you quickly to the Desktop. Ideal if the boss walks in just as you're blasting those aliens in *Marathon 2...*

GifBuilder

Animation software

Classic or better, System 7, 2Mb of RAM

GifBuilder is a program for creating animated GIF files. You can put together movies by importing a collection of PICT, GIF or TIFF files and then placing them in sequence. When you put the images together you can play them as a movie and output them as a GIF89a file. This is perfect for adding to Web pages on the Internet. You can make animations for all sorts of uses, such as bringing a presentation to life or just brightening up your Desktop.



Keys Off

Security software

Requires: any Mac, System 7 or later

A brilliant idea to keep your Mac safe from unwanted key presses. **Keys Off** enables you to define a key combination which locks your keyboard until you enter the correct password. Be sure to know the password before you switch the keys off! The idea is to stop people from tampering with your Mac while you're away from your desk.

In the MACFORMAT office, people occasionally attempt to clean our keyboards. In their vigour to make each keyboard shine like never before, they press every key (erk!), often accidentally starting up the Mac and renaming half the files on the hard disk. **Keys Off** is just what you need to prevent such damage. You can use it to keep your Mac secure or to stop youngsters from tampering with your files.

PreviewScanner 1.0.3

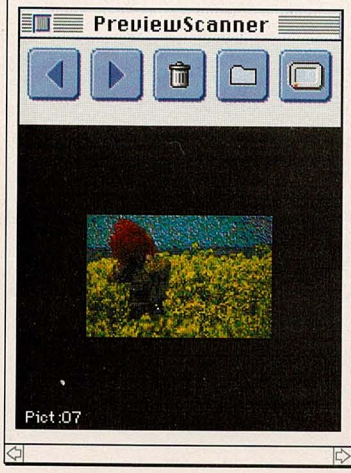
Image viewing utility

Requires: any colour Mac, System 7 or later

If you keep lots of graphics files on your Mac but sometimes lose track of which files are stored, *PreviewScanner* will help you to easily flick through your pictures. It's a useful one-stop reference source.

On first opening the program you are presented with a dialogue box which instructs you to search for the folder you want to view. Once you've located the required folder and selected it, *PreviewScanner* displays the images in it. You can then use the forward and back buttons to flick through them.

When you've found the image you want, you can open the original file – as long as you still have the software that was originally used to create it on your Mac. If you use several graphics programs, this is the perfect way to make sure you open the right program for the file you want to use.

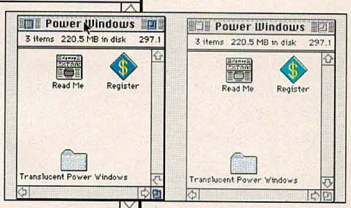


Power Windows 1.1

Utility

Requires: Quadra or better (PowerMac recommended), System 7 or later

The latest System 7.5 update gives you 'ghost' images of icons when you drag them around on a PowerMac. The Control Panel **Power Windows** does a similar job with open windows. When you drag any open window, a translucent image is left behind and the full window being dragged remains visible. If you prefer the moving window to be translucent rather than the stationary one, there is an alternative Control Panel, **Translucent Power Windows,** which does just that. You can use **Power Windows** on any Mac but, as redrawing the windows is very processor-intensive, you will need a fast Mac to keep up.

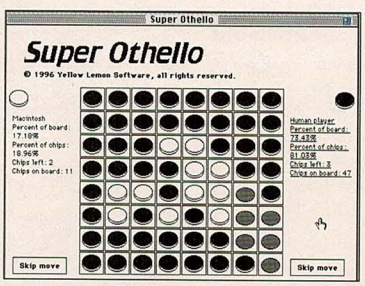


Super Othello 1.0

Game

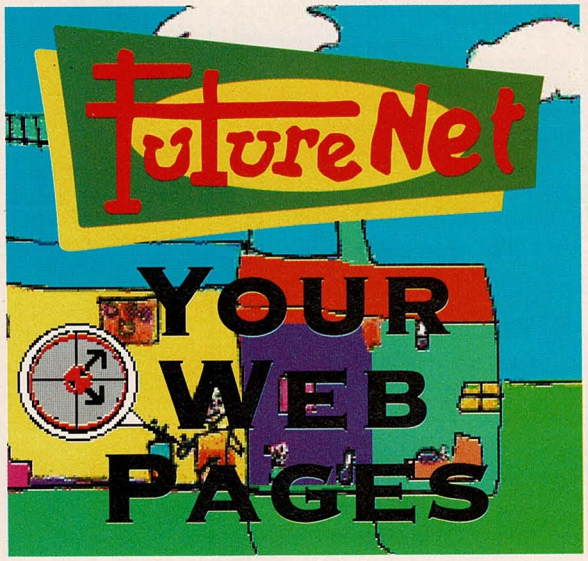
Requires: any Mac, System 6.05 or later

This version of the classic board game Reversi enables you to take on either another player or your Mac, or alternatively you can just sit back and watch your Mac play against itself. Played on a square grid, the idea of the game is to dominate the board with your colour counters. The top and bottom of the counters themselves have opposing colours. You play one colour, and the object is to sandwich counters of the other player's colour between yours. When you achieve this, their pieces are flipped over and become yours. *Super Othello* supports seven different levels of difficulty for your computer opponent, so if you are new to the game try out the easy setting to learn about strategy. Fancy yourself as an old hand? Then the hardest level will really put you to the test as your Mac ruthlessly searches for the best possible move. The package also includes a tutorial which explains how to play the game.



INSTALLING EXTENSIONS

It couldn't be easier to install System Extensions and Control Panels – just drag them over your closed System Folder and your Mac puts them in the right place for you. Then all you need to do is restart.



New technology plays a key role as Web designers fight for your attention. Discover one system that's setting the pace.

As more people regularly use the World Wide Web, designers of the thousands of sites out there are constantly searching for new ways to make their pages more attractive.

To mark the release of the newest version of the multimedia creator *Director* (read our review, starting on page 94), we're taking a look at its close relation *Shockwave*, a full multimedia system for the Web.

The new MACFORMAT home page has an image map with built-in links to your favourite Mac sections.

Meanwhile MACFORMAT's Web site has a changed style to make it easier for you to find the information you need. An image map contains built-in links to new-look sections, each offering in-depth coverage of a different aspect of the Mac. It's part of FutureNet, Future Publishing's own Web site, which currently has 360,000 registered readers.

RICHARD HILL

CONFUSED?

If you want Internet access but don't know where to start, check out MACFORMAT 39's huge cover feature with all the information you need to get you going. Turn to page 115 to find out how to get your copy.

Getting connected

All you need to connect to FutureNet is a modem and an Internet account like Demon or CityScape, or a direct server connection through work or college. There are no hidden charges – FutureNet is free! Use your World Wide Web browser to connect to:

http://www.futurenet.co.uk/

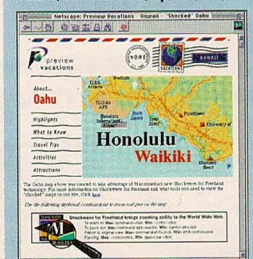
USING SHOCKWAVE

Earlier this year, the top multimedia and graphics publisher Macromedia launched *Shockwave*, a software system for making and viewing interactive material on the World Wide Web. If you're a designer or creator using either of the authoring programs *Director* or *Authorware*, or the drawing program *FreeHand*, you can use *Shockwave* to make small packages to place on the Web. Anyone with an Internet connection can then use a Web browser that recognises *Shockwave* – either *Netscape Navigator 2.0* (**http://home.netscape.com/**) or *Microsoft Internet Explorer 2.0* (**http://www.microsoft.com/**). *Shockwave* is not yet guaranteed to work properly with the versions currently under development for each of these applications.

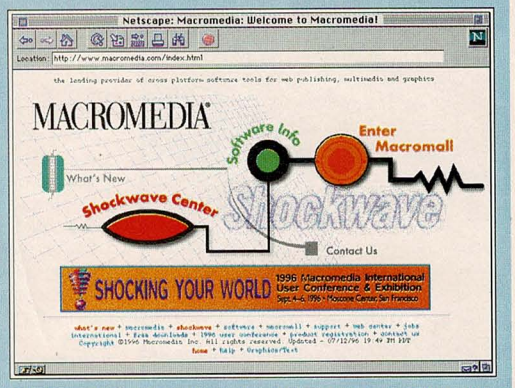
Installing *Shockwave* is easy – everything you need is at the Shockwave Centre (**http://www.macromedia.com/shockwave/**). The system works with your browser using the latter's plug-in feature, which enables you to add small sub-programs to give it extra features. You'll need to download the entire set of plug-ins, one to work with productions made with each of the three Macromedia programs. If you have any problems while you're using *Shockwave*, you'll find a full set of technical notes in the Shockwave Centre, and there's a weekly update of any bugs discovered recently, plus reports on compatibility with new versions of browsers, at **http://www.macromedia.com/support/technotes/shockwave/tn3906.html**

The *Shockwave* Centre offers plenty of helpful advice.

Once you have *Shockwave*, go to the Epicentre Gallery (**http://www.macromedia.com/shockwave/epicenter/** – note the US spelling) where you'll find links to dozens of other Web sites that are already using the software as part of their presentations. If you visited these pages without the *Shockwave* plug-ins, you'd have seen areas that were largely blank, occupied only by your browser's tell-tale plug-in icon. But with *Shockwave*, the pages come alive, offering a huge variety of interactive treats.

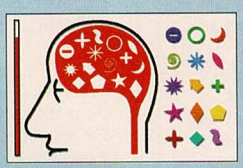


The map on this Web page is a *Shockwave* element – you can zoom and pan around Hawaii.



Shockwave is an interactive multimedia system for the Web – the software you need to view the productions is completely free!

Despite the fact that *Shockwave* is only a matter of months old, there are already plenty of developers making use of it. The *Multiplicity* site (**http://www.spe.sony.com/Pictures/SonyMovies/movies/multiplicity/stress/sor.htm**) features some amusing games and puzzles, with clear, simple graphics. You're guaranteed to fail some puzzles; the whole point of the site is to persuade you in a playful way that you're suffering from stress (like we needed convincing), so that you'll go on to read about the forthcoming film which offers one man's novel solution.



The *Multiplicity* site uses *Shockwave* to give you a variety of entertaining games.

It was inevitable that many of the first *Shockwave* productions would be games: it's been a long-standing dream of Net users to be able to play on-line. The necessarily small size of most productions means that many programmers are opting to recreate the classics of the 1980s. The AfterShock site (**http://www.ashock.com/html/arcadealley.html**) has reasonable versions of golden oldies *Frogger* and *Space Invaders*. Pop Rocket, the firm behind the *Total Distortion* music game, offers a more ecelectic choice at **http://www.poprocket.com/shockwave/** including an on-line beat-'em-up in the style of *Mortal Kombat*. And you can relieve the tension diagnosed earlier with Virtual Bubble Wrap (**http://www.mackerel.com/bubble.html**). The ability to connect a £1,000 computer to another machine on the other side of the world and pop plastic bubbles *live* is what the Net was devised for. No, really.

Apple Computer has a version of its home page (**http://www2.apple.com/sw/**) that builds itself before your eyes and incorporates a live virtual reality scene – you can use the **[command]** key and your mouse to explore it.

Shockwave has many more practical uses. The CyberKids site (shown on this page, top left) brings you an educational multimedia book at **http://www.cyberkids.com/cyberkids/Multimedia/Shockwave/MCH/mch1.html** Even more like an edutainment CD-ROM than CyberKids, Control Shock (**http://www.iconos.com/controlshock.html**) is a superb guide to how aeroplanes work, with polished graphics just like the ones you'd get from a disc. It uses *Shockwave for Authorware* to load a separate program, which interacts seamlessly with your browser to download pages and graphics. And Preview Vacations uses *Shockwave for FreeHand* as part of its tour of Hawaii (**http://www.vacations.com/Vacations/S-Hawaii/**). This variation enables you to zoom in on maps and drawings, then zoom around them.

With all the gloss of a CD-ROM program, Control Shock loads up more pages on demand.

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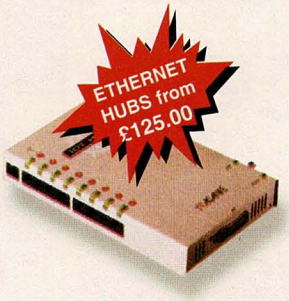

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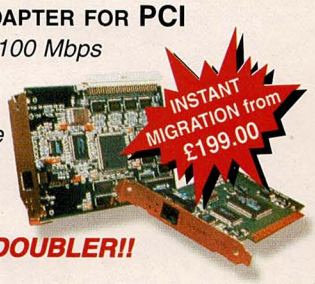

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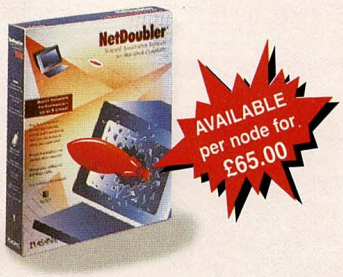

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Sony 20" SF2 Trinitron Multisync (.26) inc. Adap.	£1149
Formac 17" Trinitron Multisync (.26)	£469
Formac 17" Trinitron Multisync - HiSpec (.26)	£539

GH Prices INCLUDE Adaptors for GH, NEC, Sony & Formac!

DISPLAY UPGRADES

24-BIT Accelerated Graphics Card for £329
PDS Macs... For LCIII/475/630/5200/5300/6200/6300
(Allows 1152 x 870 resolution on 21" Monitors at 8 Bit, or 832 x 624 on 17" Monitors at 24 Bit. Plus 4096 x 1536 Virtual Desktop)

External Monitor Connection - 5200/5300 £29

Ask us about VRAM (Video RAM) for your Mac...
to give your monitor higher resolutions, more colours etc.

KEYBOARDS

Third Party Design Keyboard	£40
Apple Design Keyboard	£76
Apple Extended Keyboard	£135
Apple Adjustable Keyboard	£160

PRINTERS

LASERS

Apple Personal Laser 300 - 300dpi Mono	£415
Apple Laser 4/600PS - 600 dpi Mono	£589
Apple Laser 16/600 - 600 dpi Mono	£CALL
Apple LaserWriter 12/640PS	£1099
New 600dpi Mono Laser	
NEW Apple Color LaserWriter 12/600PS	£3999
600 dpi Colour and Mono	

INKJETS

Apple StyleWriter 1200 Mono 720 x 360dpi	£95
Apple StyleWriter 1500 Colour 720 x 360dpi	£219
Apple StyleWriter 2200 Colour 720 x 360dpi	£269
Apple StyleWriter 2400 Colour 720 x 360dpi	£219
Apple StyleWriter 2500 Colour 720 x 360dpi	£289
Apple StyleWriter EtherTalk Kit	£145
Epson Stylus Colour II 720 x 720dpi	£CALL
Epson Stylus Colour 500 720 x 720dpi	£239
Epson Stylus Pro XL Colour - A4 720 x 720dpi	£359
NEW Epson Stylus Pro XL+ Colour - A3 720 x 720dpi	£849
Epson Stylus Pro POSTSCRIPT RIP	£179
HP 600 DeskWriter Mono 600 x 300dpi	£149
HP 660C DeskWriter Colour 600 x 300dpi	£229
HP 850C DeskWriter Colour 600 x 600dpi	£329

HP PRICE CRASH!

PowerPrint Use parallel printers with Macs	£79
StyleScript Adobe PS RIP for Apple Colour SWs	£75

PRINTER CONSUMABLES

StyleWriter... I/II Portable/1200/1500...

NEW StyleWriter 1500	Black Cartridge	£15
	Colour Cartridge	£23
StyleWriter 2400/2500	Black Cartridge	£26
	Colour Cartridge	£34
	Black Ink Tank	£7
	Colour Tank	£13
Colour StyleWriter Pro	Black Hi-Capacity Cartridge	£9
	C, M, or Y Cartridge (ea.)	£8ea.
	CMYK - 4 Colour Set Cart.	£30
Epson Stylus	Black Cartridge	£11
	Colour Cartridge	£24
Epson Stylus II	Black Cartridge	£15
	Colour Cartridge	£22
Epson Stylus A4 Paper	360dpi Paper, 100 Sheets	£12
	720dpi Paper, 100 Sheets	£16
HP 340 DeskWriter	Black Cartridge	£18
HP 600/660 DeskWriter	Black Cartridge	£18
	Colour Cartridge	£20

Genuine Apple Toner Cartridges...

For Apple LaserWriter 300, 320, 4/600	£49
For Apple LaserWriter 360	£81
For Apple LaserWriter 16/600	£90
Toner Cartridges - For MOST other Lasers stocked Too...	£Call

CD ROM DRIVES

FREE DK SAMPLER WITH ANY CD DRIVE

D2 CD 600e Quad Speed inc. Cables	£164
Apple CD 600e Plus Quad Speed	£219
Apple CD 600i Plus Internal Quad Speed	£189
(Requires fitting kit - please call for details/price)	

SCANNERS

Apple Color One 600-27 Scanner £399

UMAX

Model	Photoshop	Transp. Adap.	Price
VISTA S6e	✘	✘	£249
VISTA S6e	LE	✘	£269
VISTA S6e	FULL	✔	£725
VISTA S12	LE	✘	£549
VISTA S12	FULL	✘	£649
VISTA S12	FULL	✔	£949
GEMINI	LE	✘	£779
GEMINI	FULL	✘	£879
GEMINI	FULL	✔	£1199
POWERLOOK II	✘	✔	£1499
NEW POWERLOOK II	FULL	✔	£1599
POWERLOOK 2000 with BINUSCAN	FULL	✔	£3295
MIRAGE A3	FULL	✔	£5995

PRICE CRASH! PRICE CRASH! PRICE CRASH!

Transparency Adaptors *(Quote model on order)*	£399
TextBridge bought with any Umax scanner	£39

EPSON

Model	Photoshop	Textbridge OCR	Price
GT 5000	LE	✔	£325
GT 8500	LE	✔	£495
GT 8500	FULL	✘	£669
GT 9000	LE	✔	£589
GT 9000	FULL	✘	£779

Transparency Adaptor... *(Quote scanner model with order)* £399
FOR 6000, 6500, 8000, 8500 and 9000 models

PAPERPORT

Visioneer Paperport VX for Mac *(Both come with WordScan OCR Software)*	£239
NEW SCSI Adaptor for Paperport VX	£49
NEW 4 Port Juggler for Paperport/Modems	£89

CAMERAS

Scitex Leaf Lumina *Digital Electronic Photo Scanner/Camera with 35mm Slide & Tranny Scanning*	£3249
PRICE CRASH! Casio QV-10 Digital Camera	£349
Apple QuickTake 150 inc. Mac/PC Kit	£419
QuickTake Carry Case	£40
QuickTake 100 to 150 Upgrade Lens	£13
Connectix QuickCam	£79
Connectix VideoPhone	£109
Connectix VideoPhone Software	£45

WACOM TABLETS

Artpad II... £119 Artpad II with Dabbler... £150
Ultra Pad... A5 - £255, A4 - £355, A3 - £555

STORAGE

INTERNAL HARD DRIVE	
D2, 1.2Gb	£229
D2, 2.1Gb	£479
D2, 4.0Gb (Atlas AV)	£849
EXTERNAL HARD DRIVE	
D2, 1.2Gb	£279
D2, 2.1Gb	£529
IOMEGA 100Mb ZIP Drive - inc. Cartridge	£139
ZIP Drive 100Mb Cartridge	£12
Formac 200Mb Syquest Drive - inc. Cartridge	£299
Formac 270Mb Syquest Drive - inc. Cartridge	£349
Formac 230Mb Optical Drive - inc. Cartridge	£CALL
Formac 1.3Gb Optical Drive - inc. Cartridge	£949
D2 200Mb Syquest Drive - inc. Cartridge	£319
D2 270Mb Syquest Drive - inc. Cartridge	£379
D2 230Mb Optical Drive - inc. Cartridge	£CALL
PRICE CRASH! D2 EZ135 135Mb Syquest Drive - inc. Cartridge	£99
D2 EZ135 135Mb Cartridge	£14
IOMEGA 1Gb. JAZZ Drive	£399
IOMEGA 1Gb. JAZZ Cartridge	£75
SYQUEST CARTRIDGES... PRICE CRASH!	
44Mb Capacity Cartridge	£25
88Mb Capacity Cartridge	£26
200Mb Capacity Cartridge	£49
270Mb Capacity Cartridge	£45
230Mb OPTICAL DISKS	£20
SONY CD WRITER	£599
Double Speed - Write, Quad Speed Read including Toast or Gear Software	
NEW YAMAHA CD WRITER	£849
Quad Speed - Write, Quad Speed Read including Toast or Gear Software	
NEW PINNACLE RCD 5040 CD WRITER inc. Software	£649

COMMS

Apple GeoPort for AV/Power Macs - 14.4	£94
Apple Personal COMMs Solution - 14.4 £109 28.8	£179
(For 630/5200/5260/5300/5320/6200/6300/6320, see 'Performa Options' below left)	
NEW Motorola 3400 Pro V34 - 28.8 PRICE CRASH!	£125
Lasat Safire - 28.8	£139
US Robotics Sportster 288 V34 - 28.8 PRICE CRASH!	£149
Global Village TelePort Gold II - 14.4 BABT	£59
Global Village TelePort Platinum - 28.8 BABT PRICE CRASH!	£159
Global Village PowerPort Gold PCMCIA PCMCIA 14.4 BABT	£199
Global Village PowerPort Platinum PCMCIA PCMCIA 28.8 BABT	£449
Psion Dacom Gold Card - PCMCIA	£219
NEW **FAX Friend**- Auto switch between FAX/Voice calls	£49

FREE INTERNET access software via Compuserve with ALL Modems!

RAM UPGRADES

SIMMs... 4Mb, 8Mb,16Mb, 32Mb £CALL
DIMMs... 4/8/16/32Mb or 64Mb £CALL
Memory Prices Fluctuate Daily, Call GH FIRST!!!

SOFTWARE

Quark Xpress 3.3	£649	Apple System 7.5 - CD/3.5"	£59
Adobe Illustrator 6	£279	Norton Utilities 3.2	£74
Adobe Photoshop 3.0	£399	SoftWindows 3.0 - CD/3.5"	£209
Adobe Collection	£549	SoftWindows '95 - CD	£249
KAI's Power Tools 3.0	£95	Conflict Catcher	£52
KPT Vector Effects	£95	VIREX - Anti Virus	£59
KPT Power Photos 1, 2 or 3	£95ea.	SAM	£54
KPT Convolver	£95	SAM (Inc. Updates for 1Year)	£109
KPT Bryce II	£139	RAM Doubler	£38
Freehand 5.5	£319	Speed Doubler	£38
Fontographer	£290	RAM & Speed Doubler Pack	£54
Claris Works 4	£94	NOW Upto Date & Contact	£55
Claris Works to MS Office u/g	£179	Stuffit Deluxe 4.0	£66
Claris E'Mailer	£42	DOS Mounter	£52
Claris Draw	£95	DiskGuard	£66
Claris Impact	£95	PopUp Folder	£30
Filemaker Pro 3	£159	Master Juggler Pro	£49
Microsoft Office 4.2	£359	Clip Master Pro	£13
Microsoft Word 6.0	£245	Hypercard 2.3.1	£94
Microsoft Excel 6.0	£245	Let's Keep It Simple - S/Sheet	£48
M.Y.O.B. Accounts	£149	Maths Workshop	£28
MacMoney	£62	Creative Writer & Fine Artist	£39
Complete After Dark CD	£34	Encarta '96	£39
Apple PC Exchange	£39	Groliers Ency. Science Fiction	£30
Apple Personal Diagnostics	£68	LOTS MORE SOFTWARE Call!	

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FREE TRIAL CD FULL OF DK's AMAZING SOFTWARE...
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Kensington Turbo Mouse V4	£59
Kensington Thinking Mouse	£51
MacAlly Mouse	£17
MacAlly Joystick	£32
MacAlly Game Pad	£22
Jet Stick	£38
Flight Stick Pro	£68
APPLE 1 YEAR ON-SITE MAINTENANCE	£15

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GH HAVE BEEN APPOINTED AN OFFICIAL "NEWTON CENTRE"
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NEWTON 120 MkII - 2Mb + Software Pack	£409
NEWTON 130 MkII	£499
NEWTON GSM BUNDLE	£949

NEWTON ACCESSORIES

External FAX/Modem	£84	FOR 100 Model...	
Print Pack	£39	Carrycase	£14
Keyboard	£65	Leather Carrycase	£25
AC Adaptor	£19	Battery Pack Recharger	£33
Car Adaptor	£23	Battery Booster	£12
1Mb Storage Card	£55	FOR 110/120/130 Models...	
2Mb Storage Card	£105	Leather Carrycase	£38
4Mb Storage Card	£185	Mains Recharger Cradle	£49
Connection Kit - Mac	£45	Nicad Battery Pack	£15
Connection Kit - Windows	£45	Stylus	£8

NEWTON SOFTWARE

PowerForms	£74	Time Reporter	£69
GoFigure	£24	Quick Figure Pro	£43
Berlitz 5 Language (PCMCIA)	£70	AvailWorks	£60
		CIS Retriever	£93
Jig Saw Strategy Game	£16	First Class Retriever	£79
Equate	£61	NS Basic	£79
Press for Mac	£52	Now Synchronise	£22
Notion (The List Manager)	£32	Please call GH for LOTS	
TapWorks	£55	MORE NEWTON	
PocketCall	£71	ACCESSORIES	
Accountable	£48	AND NEWTON	
Leverage 2.0	£88	SOFTWARE!	
Action Names/Agenda 3.0	£35		

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We think we offer the BEST overall deal possible and you can rest assured that as an Apple Authorised Reseller, Apple Authorised Service Provider, Apple Authorised Higher and Further Education Alliance Reseller, Apple Commercial Credit Provider and Apple Newton Centre... we can offer you everything!

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Authorised Reseller

Appointed for high standards in Apple Hardware Maintenance & Care

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- Apple Authorised Service Provider
- Apple Authorised Higher and Further Education Alliance Reseller
- Apple Commercial Credit Provider
- Apple Newton Centre

Whilst our standard warranty cover is comprehensive, we also offer enhanced and extended warranties too. If your Mac is an essential part of your business, you may require a fast collection or on-site response service for minimal down time. Ask for details and choose the option that suits your needs best. Our 'Gold Service' is priced from as little as £10!

Lifetime Warranty Plan *for equipment used at Home (ie not on commercial premises)...Add an extended warranty to any hardware from GH. Take up to 5 yrs cover and at the end of that period extend again on an annual basis, you get a lifetime's peace of mind. Schemes even cover for accidental damage as well as break down. Fully transferable should you wish to sell your equipment so enhancing resale values. Even available on certain hardware purchased elsewhere. Phone GH for details.*

Equipment under Apple warranty, *can be collected for service... even if it was purchased elsewhere! We are also happy to quote for out of warranty hardware repairs and service, no matter how old the product may be. Call GH for details.*

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We are often told our showroom is the best in the UK. So why not visit us in scenic Derbyshire and see for yourself the vast range we have on display, all at mail order prices, off the shelf!

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Ask for our Tourist Information Leaflet which covers the many local natural and special attractions, from quiet country walks to historic sites and exciting modern theme parks.

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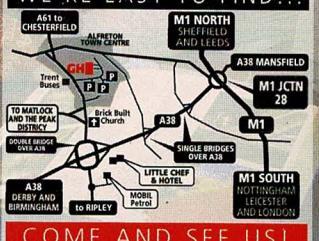

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ALL PRICES EXCLUDE VAT
and are shown for businesses only. Consumers - please ask for an Inc. VAT Price List.

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4Mb 72-pin SIMM	£28ex vat	£33inc vat
8Mb 72-pin SIMM	£48ex vat	£57inc vat
16Mb 72-pin SIMM	£93ex vat	£110inc vat
32Mb 72-pin SIMM	£185ex vat	£218inc vat
8Mb 168-pin DIMM	£48ex vat	£57inc vat
16Mb 168-pin DIMM	£93ex vat	£110inc vat
32Mb 168-pin DIMM	£185ex vat	£218inc vat
64Mb 168-pin DIMM	£349ex vat	£411inc vat
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while stocks last

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PowerMac 8500/150 16/2000 CD & 256k Level 2 Cache
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PowerMac 9500/150 32/2000 CD & ATI Video Card
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LOOK !! NEW PRODUCT

FEATURES
- 100% compatible with Macintosh OS
- Fast 150MHz PowerPC 604 CPU, can be upgraded by swapping the processor card
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- Dual processor capable - suitable for multi-processor applications
- Built-in network capability LocalTalk and EtherTalk connectors on board
- Six PCI slots
- Eight DIMM slots

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with a **FASTER** 120Mhz PowerPC 603e processor, 3 New Disney CD-ROM titles bundled and the Apple Internet Connection kit (which with an optional modem allows easy internet connection)

Performa 5320 8/1200 CD, 14.4 Modem & keyboard
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>>>> NEW <<<<

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PowerBook 190 8/500	£885ex vat	£1040inc vat
PowerBook 190cs 4/500	£995ex vat	£1170inc vat
PowerBook 190cs 8/500	£1149ex vat	£1350inc vat

NEW PowerBook 190 PRESENTATION BUNDLE

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ONLY £ 1,399 ex vat £ 1,644 inc vat

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£ 1586inc vat

FEATURES
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- 600x600 dpi with FinePrint
- PostScript Level 2
- 16ppm; 35 PS fonts
- 8Mb RAM expandable to 32Mb
- 250 sheet paper tray; 100 sheet multipurpose
- LocalTalk, EtherTalk, Parallel, SCSI, Serial

APPLE LASERWRITER 16/600 BUNDLES

LaserWriter 16/600 PS & Fax Card £ 1499ex vat £ 1762 inc vat
LaserWriter 16/600 PS with Fax Card and modem £ 1549ex vat £ 1821 inc vat
LaserWriter 16/600 PS with 254Mb internal hard disk £ 1499ex vat £ 1762 inc vat

MEMORY/VRAM/FPU

	EX VAT	INC VAT
1Mb 30-pin SIMM	£ 18	£ 22
2Mb 30-pin SIMM	£ 28	£ 33
4Mb 30-pin SIMM	£ 50	£ 59
16Mb 30-pin SIMM	£ 125	£ 147
4Mb 72-pin SIMM	£ 28	£ 33
8Mb 72-pin SIMM	£ 48	£ 57
16 Mb 72-pin SIMM	£ 93	£ 110
32Mb 72-pin SIMM	£ 185	£ 218
8Mb 168-pin DIMM	£ 48	£ 57
16Mb 168-pin DIMM	£ 93	£ 110
32Mb 168-pin DIMM	£ 185	£ 218
64Mb 168-pin DIMM	£ 349	£ 411
4Mb Duo/PB 150/2300 (PB 150 needs MEMKIT)	£ 85	£ 100
8Mb Duo/PB 150/2300 (PB 150 needs MEMKIT)	£ 99	£ 117
14Mb Duo/PB 150/2300 (PB 150 needs MEMKIT)	£ 175	£ 206
4Mb Powerbook 500 Series	£ 99	£ 117
8Mb Powerbook 500 Series	£ 149	£ 176
16Mb Powerbook 500 Series	£ 175	£ 206
32Mb Powerbook 500 Series	£ 699	£ 822
4Mb Powerbook 5300 Series (not PB190)	£ 75	£ 89
8Mb Powerbook 5300/190 Series	£ 99	£ 117
16Mb Powerbook 5300/190 Series	£ 175	£ 206
32Mb Powerbook 5300/190 Series	£ 299	£ 352
256K VRAM Module	£ 15	£ 18
512K VRAM Module	£ 20	£ 24
1Mb VRAM DIMM (PowerMac 7200/7500/8500)	£ 40	£ 47
2Mb VRAM for ATI board (PowerMac 9500)	£ 125	£ 147
Maths Co-Processor LC/LCII/Classic II	£ 30	£ 36
25/33MHz Co-Processor for older Macs	£ 30	£ 36
25MHz 68040 Co-Pro for C610/LC475	£ 125	£ 147
33MHz 68040 Co-Pro for Mac 630	£ 199	£ 234

STORAGE

	EX VAT	INC VAT
1.2Gb Quantum internal hard drive 1"	£ 185	£ 218
2Gb Fujitsu internal hard drive 1" 10ms	£ 449	£ 528
4Gb Fujitsu internal hard drive 1.6"	£ 649	£ 763
For external versions of the above drives add	£ 75	£ 89
4Gb DDS-2 DAT drive w/ s/w, tape & cables	£ 699	£ 822
4-16Gb DDS-2 DAT drive w/ s/w, tape & cables	£ 775	£ 911
200Mb Syquest Drive with cart, cables & s/w	£ 299	£ 352
Iomega 100Mb Zip Drive with 1 cart, cables & s/w	£ 149	£ 176
Syquest EZ 135 with 1 cart, cables & s/w	£ 99	£ 117
1Gb Ext Jaz Drive w/ 1 cart,cables & s/w	£ 375	£ 441
Apple CD-600e Plus External CD-ROM drive	£ 229	£ 270
Dual Speed CD Writer with Toast Pro s/ware	£ 599	£ 704

PRINTERS

	EX VAT	INC VAT
Apple StyleWriter 1200	£ 95	£ 112
Apple Colour StyleWriter 2200	£ 269	£ 317
Apple Colour StyleWriter 2500	£ 259	£ 305
Apple LaserWriter 4/600 PS	£ 589	£ 693
Apple LaserWriter 12/640 PS	£ 1,079	£ 1,268
Apple LaserWriter 16/600 PS	£ 1,349	£ 1,586
Apple Colour LaserWriter 12/600 PS	£ 3,999	£ 4,699
Epson Stylus II 720 dpi Colour Inkjet	£ 239	£ 281
Epson Stylus Pro A4 Colour Inkjet	£ 359	£ 422
Epson Stylus Pro XL A3+ 720dpi Colour Inkjet	£ 849	£ 998
GCC Elite XL616 (600dpi, A3, 16ppm, Ethernet)	£ 2,499	£ 2,937
HP Deskwriter 660C Colour	£ 239	£ 281
HP Deskjet 850C	£ 329	£ 387
HP Laserjet 5MP	£ 759	£ 892
HP Laserjet 4M plus	£ 1,349	£ 1,586
HP Laserjet 4MV	£ 2,099	£ 2,467
HP Laserjet 5si MX	£ 2,849	£ 3,348

MONITORS/VIDEO CARDS

	EX VAT	INC VAT
Apple Multiple Scan 14" Display	£ 229	£ 270
AppleVision 1710 display	£ 599	£ 704
AppleVision 1710 AV display	£ 675	£ 794
Mitsubishi 21" Diamondtron Colour Display	£ 1,299	£ 1,527
Sony Multiscan 15SFII Trinitron display	£ 315	£ 371
Sony Multiscan 17SFII Trinitron display	£ 539	£ 634
Sony Multiscan 20SFII Trinitron disp. (w.1yr on site)	£ 1,149	£ 1351
Formac ProVision 4/60 128 bit PCI Card	£ 525	£ 617
Matrox Millennium (4Mb VRAM) PCI card	£ 285	£ 335
miroMotion DC 20 Digital Video PCI Card	£ 799	£ 939
Xceed 24-bit (17") Card LCIII/475/630	£ 375	£ 441

SYSTEMS

	EX VAT	INC VAT
Performa 630 12/500 CD DOS & kb	£ 969	£ 1,139
Performa 6320 8/1200 CD Plus & kb	£ 1,185	£ 1,393
Performa 5200 8/800 CD Plus II & kb	£ 919	£ 1,079
Performa 5260 12/800 CD built-in 14" display & kb	£ 1,079	£ 1,268
Performa 5300 16/1200 CD TV, Modem, MPEG & kb	£ 1,449	£ 1,962
Performa 5320 8/1200 CD Plus, 14.4 Modem & kb	£ 1,419	£ 1,668
Performa 5320 16/1200 CD Plus, 28.8 Modem, TV, MPEG & kb	£ 1,999	£ 2,349
PowerMac 7200/90 8/500 CD	£ 1,059	£ 1,245
PowerMac 8200/100 8/1200 CD	£ 1,299	£ 1,527
PowerMac 8200/120 16/1200 CD	£ 1,649	£ 1,938
PowerMac 7500/100 8/500 CD	£ 1,455	£ 1,710
PowerMac 7500/100 16/1000 CD	£ 1,539	£ 2,063
PowerMac 7600/120 16/1200 CD	£ 2,175	£ 2,556
PowerMac 8500/120 16/2000 CD	£ 2,849	£ 3,348
PowerMac 8500/120 16/2000 CD w/ AppleVision 1710 AV	£ 3,399	£ 3,994
PowerMac 8500/150 16/2000 CD	£ 3,185	£ 3,743
PowerMac 9500/132 16/2000 CD w/2MB ATI	£ 2,815	£ 3,701
PowerMac 9500/150 32/2000 CD w/ ATI Card	£ 3,599	£ 3,936

POWERBOOKS

	EX VAT	INC VAT
PowerBook 190 4/500	£ 769	£ 904
PowerBook 190cs 4/500	£ 995	£ 1,170
PowerBook 5300 8/500	£ 1,425	£ 1,675
PowerBook 5300cs 8/500 w/ TDK 28.8 or Colour SW 2200	£ 1,799	£ 2,114
PowerBook 5300c 8/500 w/ TDK 28.8 or Colour SW 2200	£ 2,375	£ 2,791
PowerBook 5300ce 32/1100 w/ TDK 28.8 or Colour SW 2200	£ 3,969	£ 4,664

ACCELERATORS•UPGRADES•CACHE

	EX VAT	INC VAT
PowerMac 256K Cache Card (6100/7100)	£ 85	£ 100
PowerMac 512K Cache Card (6100/7100/8100)	£ 199	£ 147
PowerMac 256K Cache DIMM (7200/7500)	£ 85	£ 100
PowerMac 512K Cache DIMM (72/75/8500)	£ 175	£ 206
Daystar PowerCard 475/630 100MHz	£ 699	£ 822
Daystar PowerPro 601 PDS Quadra 100MHz	£ 899	£ 1,057
Daystar Turbo 601 66MHz card IIvi/vx/P600/IIci	£ 599	£ 704
Daystar Turbo 601 100MHz IIvi/vx/P600/IIci	£ 849	£ 998
Thunder 32MHz 030 with FPU for LC/LCII/P400	£ 99	£ 117
ThunderCache 32MHz 030 w/ FPU & Cache	£ 170	£ 200

COMMUNICATIONS

	EX VAT	INC VAT
Global Village Teleport Platinum 28.8 BABT approved	£ 149	£ 176
Global Village Platinum 28.8 (PB 190/5300)	£ 399	£ 469
Motorola 3400 Pro 28.8 Fax Modem	£ 125	£ 147
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Illustration shows a PowerTrap 7A securing a PowerMacintosh 7100

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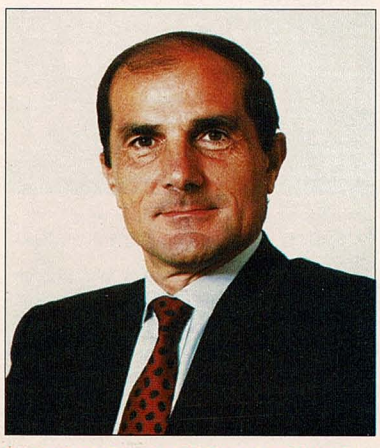
Apple recovery confirmed; Macs in the movies; and what is the world's most popular program? News Editor: Richard Hill.

New direction looms as Apple accepts its Mission

It's becoming clear that you'll be dealing with a very different Apple within the next 12 months, as the firm's new bosses re-evaluate its purpose and working methods. New Apple head Gil Amelio's first moves to put the company on a sturdier footing after recent stinging losses seem to be working, with a stronger business starting to emerge, but Apple is set to become still more pragmatic.

During the past stormy year, the firm lost one commander (Michael Spindler) and gained Gil Amelio in his place. It is also losing money despite strong sales for the Mac and its other products, although the UK arm remains much healthier than its American parent. But Amelio's immediate moves to make Apple more efficient are paying off. After making a loss of $740 million (£477 million) between January and March this year, Apple's deficit between April and June came down to $32 million (£21 million). More importantly, the firm is spending less money to keep itself going and its more expensive PowerMacs now make up a higher proportion of its overall sales, bringing in extra revenue. Apple has clearly turned a corner with these results.



Former Apple Europe chief Marco Landi joins Gil Amelio at the head of Apple. You can read more of Landi's views on Apple in MACFORMAT 37.

New Chief Operating Officer Marco Landi, who is second-in-command to Amelio, confirmed in recent interviews that he wants Apple to adopt a more hard-nosed, less complacent attitude. Speaking in New York in July, Landi said: 'Our entire structure will push profit.'

New ideas

A private Apple white paper document suggests that the firm's decision makers feel Apple must carry on casting aside old attitudes and ensure it can compete with others in the computer industry. The industry newspaper *MacWeek* recently quoted some excerpts from the internal report. Most crucially, there was a call for Apple to regain the advantages it once had over its main rivals, both in hardware and software. 'We must stop taking for granted that our products excel in ease in use,' the authors wrote, comparing Macs to computers using the Windows 95 operating system. 'We must face the fact that for many routine tasks in the hands of routine users, the two types of personal computer have become largely indistinguishable.'

Marco Landi on the new Apple: 'Our entire structure will push profit.'

According to the white paper, one idea under discussion is to build on the concepts expressed through projects like the Pippin Internet and multimedia console and the Apple Image Capture Platform, a proposed system for creating cameras that can use basic software to become handheld computers (see our image manipulation feature starting page 38 for more details). Both these devices reflect an argument gaining acceptance in the computer industry that the powerful desktop computer, capable of many tasks, is too complicated for many people. Instead there should be a diverse choice of computer devices with different features and prices, with the desktop computer playing its own role. Apple could be looking to use the design ideas in the Mac operating system in a variety of machines, for example in education or for cheaper access to the Internet.

Apple is exploiting its media connections with a high-profile campaign based around the hit film *Mission Impossible* (full story on next page). But Apple is also getting to grips with its own new assignment: to rebuild the company for the 21st century.

Landi's plans

Marco Landi has already said he wants to bring greater value to Apple's line-up, making the Mac something that stands out more clearly. Speaking to *MacWeek*, he said: 'We need to make sure we have a process that is looking at how we can provide user value that will make us different, that will rebuild that Apple magic.'

Landi believes that doing his job well will enable others in more creative roles to come up with fresh new ideas for hardware and software, increasing Apple's technology lead once again. 'When people are confused, you kill creativity,' he said.

The Mac OS 8 team has a new leader, which should renew the project's momentum.

The team is complete

Meanwhile, the final member of Amelio's new-look team has now been

Continued on next page

Devices like Pippin (Bandai's version is shown here) will play an important part in Apple's future.

appointed. Ellen Hancock is the new Chief Technology Officer, succeeding David Nagel as head of Apple's crucial research department and other software divisions. Her job will include overseeing the completion Mac OS 8, the next major version of the operating system, which is due next year. She also promised to exploit Apple's advantages in ease-of-use, the Internet and multimedia.

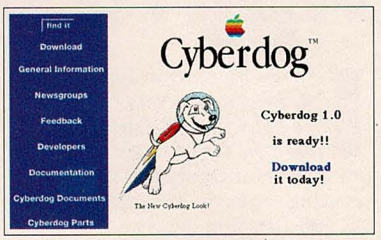
What's significant here is that like Landi, new Chief Financial Officer Fred Anderson and and Amelio himself, Hancock's experience lies outside Apple, with over 30 years spent at IBM and National Semiconductor. The new Apple team is one that can look at the firm and its assets with no preconceptions about what Apple should or shouldn't be doing – or how to do it.

Apple on the Net

The Internet is seen as the main area where Apple can really take advantage of the existing climate, where setting up an Internet account and using the Net remains more complicated than other common computing tasks. As well as helping users at home make light work of the Net through products like the *Apple Internet Connection Kit*, an easy-to-use pack of Net utilities, Apple also has more far-reaching plans to change the underlying way the Mac works on the Net and in the networks of computers used in large businesses.

Speaking at California's recent Mactivity conference, Apple's Internet guru Larry Tesler revealed moves to blend internal networks and the Net closer together, so that you can set up private Web sites for company use. You will then be able to use your Web browser, or new Internet programs like Apple's free *Cyberdog* suite, to deal with information from within and outside your office. The same principles can be applied at home to enable you to deal with information stored on your hard drive and on the Net with the same software.

This sophisticated way of processing information should prove especially appealing to businesses as the new PowerPC Platform computers go on sale, either later this year or in early 1997. These are capable of running programs written for several operating systems, and the Mac OS's new features will be a clear asset in this type of environment.



Apple's free *Cyberdog* program is to gain new features so you can use it on internal networks.

THE MAC SAVES THE WORLD!

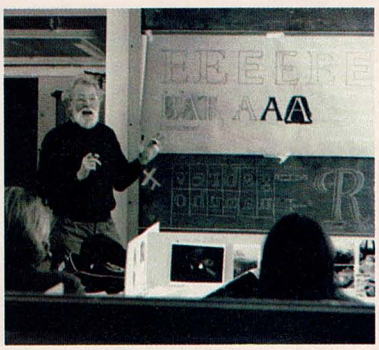
There's a new breed of hero in town: one who saves the world with a Mac. Two summer blockbusters feature leading men who battle the foces of destruction with portable PowerBooks, and Apple is capitalising on the fact to promote the PowerBook through a campaign of TV and press adverts.

Mission Impossible is already challenging the cinema attendance record books. An update of the famous TV series, *Mission Impossible* stars Tom Cruise and Emmanuelle Beart. The PowerBook is an essential part of hero Ethan Hunt's spy equipment. The Internet plays a key role in the film's plot, although the part where our hero downloads a full-screen video from the Net in only a few seconds stretches credibility just slightly. Apple is also giving *Mission* maker Paramount Pictures Web support, with Macs being used to design and run the two official *Mission Impossible* Web sites at **http://www.mission.apple.com/** and **http://www.missionimpossible.com/**

PowerBooks also play a pivotal role in *Independence Day*, an action-packed science fiction movie which opens in the UK on Friday 9 August. After a worldwide invasion by aliens, a group of daring individuals – including our Mac-packing good guy – must team up to fight them. Again, Apple will be making the most of its involvement with special promotional activities. The two campaigns demonstrate Apple's new willingness to exploit its popularity with people who work in the media, arising from the Mac's superb graphics and multimedia features.

Join a free design course

You have the chance to study on a course about type and lettering, and the design principles behind them, as part of a scheme set up by design and font firm Monotype. The University of Reading's *Letterforms* course improves its students' understanding of letter and type design, from the earliest hand-written calligraphy to the latest techniques in computer type.

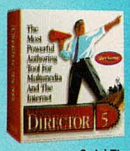


Learn the techniques of type inside-out with the University of Reading's free *Letterforms* course.

Monotype is offering six free places on the course. To qualify for a place on the course, you must be 25 or over with a serious interest in design. You would join the full-time design students for six three-day sessions during 1996 and 1997. For more details on *Letterforms* and an application form, contact Monotype on 0800 371242.

Continued on next page

Macromedia Electrifies The Web: Over 1 million people feel the Shockwave



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xRes
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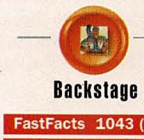

Backstage
FastFacts 1043 (Plus)
FastFacts 1044 (Studio)

Director
FastFacts 5001

Authorware
FastFacts 5011

SoundEdit 16
FastFacts 5002

Deck II
FastFacts 1030

Since its introduction in December 1995, over one million people have downloaded a Shockwave plug-in, making it one of the most widely used plug-ins for Netscape Navigator 2.0. And thousands of Web sites have been "Shocked".

Shockwave brings multimedia-rich content to the Web, using authoring tools that are already the industry standards. Netscape's 2.0 browser gives you seamless viewing of Shockwave files within Web pages. So today, the same Director that produces award-winning entertainment CDs and outstanding corporate presentations can also create high-impact multimedia Web sites. The same Authorware that leads the way in interactive training can also super-charge your Intranet. The same FreeHand that provides the most powerful tools for design & illustration can now bring resolution-independant vector graphics to the World Wide Web.

To learn more about Shockwave and Macromedia's authoring tools, either use our FastFax service or visit us on the Web at http://www.macromedia.com/. While you're there, go ahead and download Shockwave FREE.

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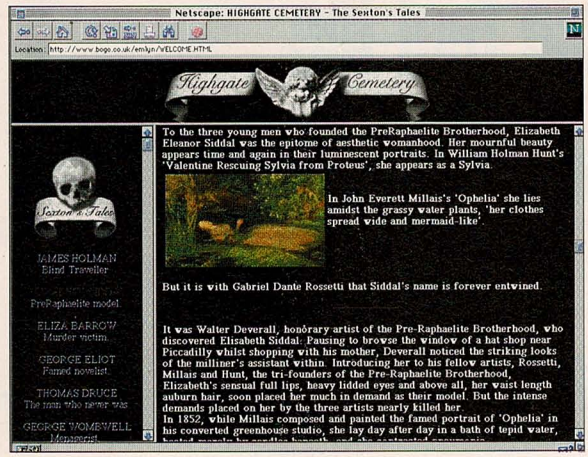
Mac designers scoop Web awards


Netscape: HIGHGATE CEMETERY - The Sexton's Tales
Highgate Cemetery
Sexton's Tales
JAMES HOLMAN
Blind Traveller
PreRaphaelite model
ELIZA BARROW
Murder victim
GEORGE ELIOT
Famed novelist
THOMAS DRUCE
The man who never was
GEORGE WOMBWELL
Menagerist
To the three young men who founded the PreRaphaelite Brotherhood, Elizabeth Eleanor Siddal was the epitome of aesthetic womanhood. Her mournful beauty appears time and again in their luminescent portraits. In William Holman Hunt's 'Valentine Rescuing Sylvia from Proteus', she appears as a Sylvia.
In John Everett Millais's 'Ophelia' she lies amidst the grassy water plants, 'her clothes spread wide and mermaid-like'.
But it is with Gabriel Dante Rossetti that Siddal's name is forever entwined.
It was Walter Deverall, honorary artist of the Pre-Raphaelite Brotherhood, who discovered Elisabeth Siddal. Pausing to browse the window of a hat shop near Piccadilly whilst shopping with his mother, Deverall noticed the striking looks of the milliner's assistant within. Introducing her to his fellow artists, Rossetti, Millais and Hunt, the tri-founders of the Pre-Raphaelite Brotherhood, Elizabeth's sensual full lips, heavy lidded eyes and above all, her waist length auburn hair, soon placed her much in demand as their model. But the intense demands placed on her by the three artists nearly killed her.
In 1852, while Millais composed and painted the famed portrait of 'Ophelia' in his converted greenhouse studio, she lay day after day in a bath of tepid water,

The UK Web Awards celebrated the best of British Web pages, including *The Sexton's Tales* by Emlyn Harris.

Many of the finest talents in World Wide Web design use Macs, according to the results of the first UK Web Awards. Four of the seven award winners – including one MACFORMAT reader – assemble or run their Web sites using the Mac. The Awards, for Web sites made and based in Britain, were staged by Yell (the Net Yellow Pages) and Future's own *.net* magazine.

Emlyn Harris is the winner of the Best Personal Site award for his *Sexton's Tales* (**http://www.bogo.co.uk/emlyn/**), an unusual and compelling interactive guide to Highgate Cemetery and the lives of the people laid to rest there. Emlyn, an actor and script-writer, says: 'My transition to writer and "Web wizard" has been accomplished on a humble 660AV Mac and is due in no small part to the articles and software contained in MACFORMAT and .net. Virtually all the images on my Web site were created with *Color It* (the complete version was on the double CDs and disks with MACFORMAT 31), and the animations were made with *GifBuilder.*'

Disney's official *Toy Story* site (**http://www.bvi.co.uk/toystory/**) scooped the award for Most Innovative Web Site. Promoting the film of the same name, *Toy Story* is filled with imaginative games built using the new Java system, which enables small programs you can control to be placed directly on Web pages. The site also makes use of *Shockwave*, another interactive Web technology (see page 14 for a closer look at *Shockwave).* The site's designers use PowerMacs alongside Windows PCs and expensive Sun SPARC workstations.

The award for Best Design went to the official site for jeans manufacturer Diesel (**http://www.diesel.com/**). Diesel's sharp, irreverent look was put together on Macs.

The Electronic Telegraph (**http://www.telegraph.co.uk/**), the final Mac-based winner, picked up the 'Just for the Yell of it' award, given for what the organisers describe as 'the site that keeps you coming back for more.'

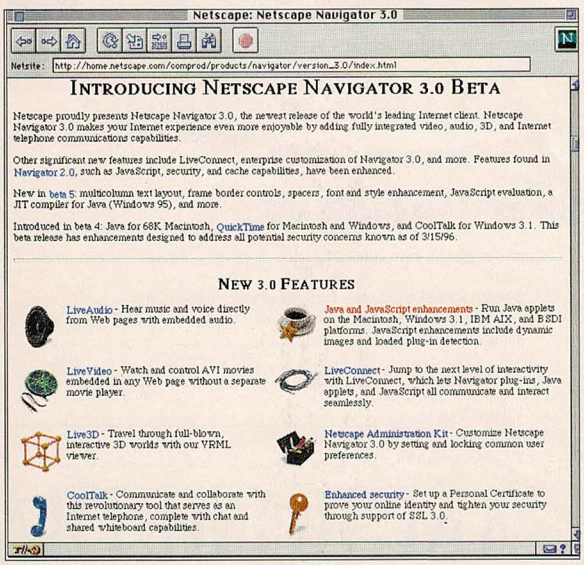
You can find out more about the full line-up of winners, and discover their tips for creating great Web pages, in the August issue of *.net*, on sale now.

Snappy with a hip sense of humour, Diesel Jeans won a UK Web Award for its Web page design.

Is Netscape the world's most popular program?

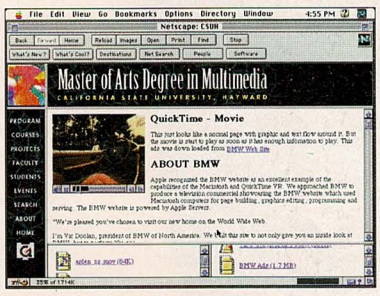
More than 38 million people have used *Netscape* to view the World Wide Web.

The Internet software firm Netscape claims its *Netscape Navigator* Web browser is now the world's most popular software program of any type, not only on the Mac but on any computer. Netscape has announced that the program now has 38 million users, beating the likes of rival Microsoft's popular *Excel* spreadsheet by millions.


Netscape: Netscape Navigator 3.0
Netsite: http://home.netscape.com/comprod/products/navigator/version_3.0/index.html
INTRODUCING NETSCAPE NAVIGATOR 3.0 BETA
Netscape proudly presents Netscape Navigator 3.0, the newest release of the world's leading Internet client. Netscape Navigator 3.0 makes your Internet experience even more enjoyable by adding fully integrated video, audio, 3D, and Internet telephone communications capabilities.
Other significant new features include LiveConnect, enterprise customization of Navigator 3.0, and more. Features found in Navigator 2.0, such as JavaScript, security, and cache capabilities, have been enhanced.
New in beta 5: multicolumn text layout, frame border controls, spacers, font and style enhancement, JavaScript evaluation, a JIT compiler for Java (Windows 95), and more.
Introduced in beta 4: Java for 68K Macintosh, QuickTime for Macintosh and Windows, and CoolTalk for Windows 3.1. This beta release has enhancements designed to address all potential security concerns known as of 3/15/96.
NEW 3.0 FEATURES
LiveAudio - Hear music and voice directly from Web pages with embedded audio.
Java and JavaScript enhancements - Run Java applets on the Macintosh, Windows 3.1, IBM AIX, and BSDI platforms. JavaScript enhancements include dynamic images and loaded plug-in detection.
LiveVideo - Watch and control AVI movies embedded in any Web page without a separate movie player.
LiveConnect - Jump to the next level of interactivity with LiveConnect, which lets Navigator plug-ins, Java applets, and JavaScript all communicate and interact seamlessly.
Live3D - Travel through full-blown, interactive 3D worlds with our VRML viewer.
Netscape Administration Kit - Customize Netscape Navigator 3.0 by setting and locking common user preferences.
CoolTalk - Communicate and collaborate with this revolutionary tool that serves as an Internet telephone, complete with chat and shared whiteboard capabilities.
Enhanced security - Set up a Personal Certificate to prove your online identity and tighten your security through support of SSL 3.0.

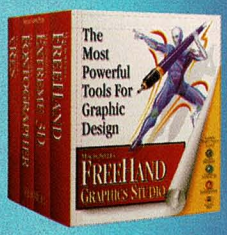
The next release of *Netscape* will be version 3.0, due out this month. Developing the browser's potential as a full-blown multimedia player, the package will include Apple's QuickTime plug-in for viewing video and virtual reality clips within a Web page (see News, MACFORMAT 40). You'll also be able to use Java applets, complete mini-programs written with the fast-growing Java programming language.

Web authors will be encouraged to adopt additions to *Netscape's* unofficial but widely-used HTML enhancements, extra commands for the code that makes up Web pages. These will add features like placing live video and audio within a page.



Netscape 3.0 will include a QuickTime video player to give you full multimedia on the Net.

You can also expect to see early versions of *Netscape 4.0* within weeks, although the finished program isn't due until 1997. New features for Web designers will include the ability to open several separate windows at once. The next *Netscape* will also be able to auto-load plug-ins, the small programs that add extra features. If you visit a site that requires a plug-in you haven't found and installed for yourself, the program will seek out the plug-in and install it for you before you proceed. Work is also continuing on an OpenDoc version of *Netscape* that will work with other OpenDoc components including *Cyberdog.*



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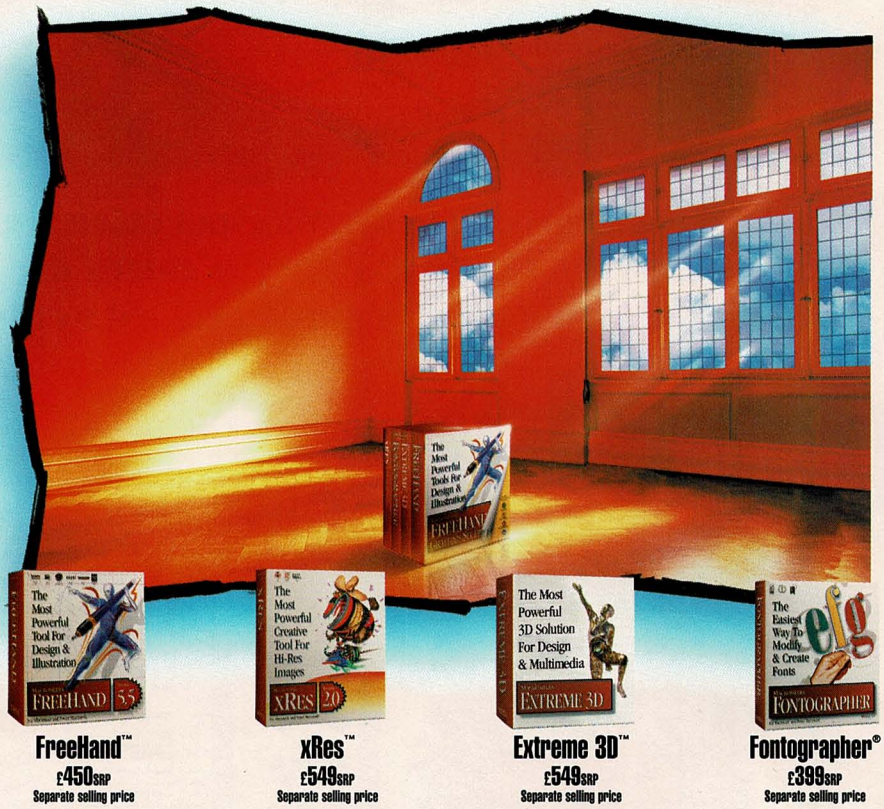
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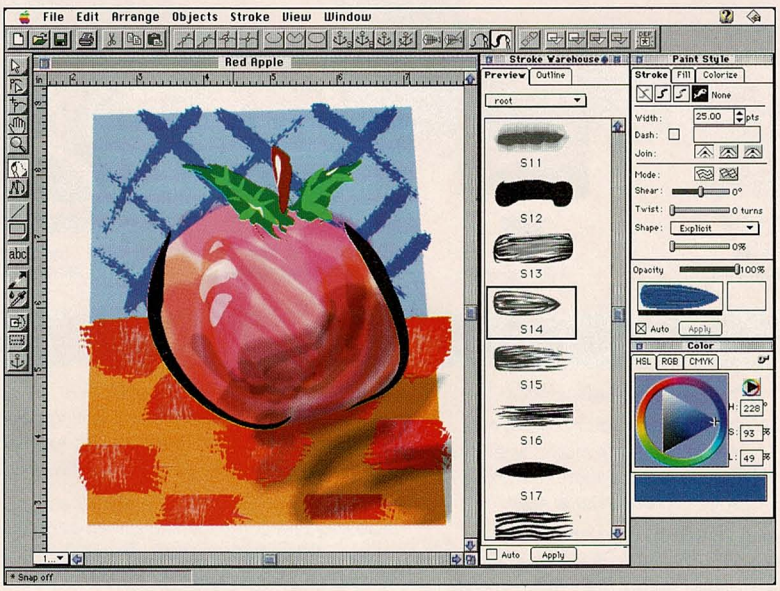
WHAT'S NEW

Find a fresh approach to drawing and catch a glimpse of Peter Gabriel's second CD-ROM. Plus: ten games due in the next 12 months that you'll want to own. Compiled by Richard Hill.

Expression



Expression is an unusual program offering some truly distinctive and natural drawing features.

Fractal Design is well-known for popularising the idea of natural media – using your Mac to create illustration with the subtlety of brushstroke and texture that you should only be able to achieve with traditional brushes and pencils.

Fractal's *Painter* and *Dabbler* are both programs that already use natural media. Where *Expression* differs from its stablemates is that it's a vector drawing program rather than a bitmap package. The difference between the two formats has to do with the way in which the image's information is stored. What these differences mean in practice is that vector graphics are generally better suited for precise drawing, while bitmap programs give you more control for the mixing of colours and textures in richly-detailed illustrations and photos – painting as opposed to drawing.

Expression will bring these essentially separate disciplines closer together, enabling you to use brushes and control the strokes they make. There's a full set of natural-looking tools from brushes to pens and pencils.

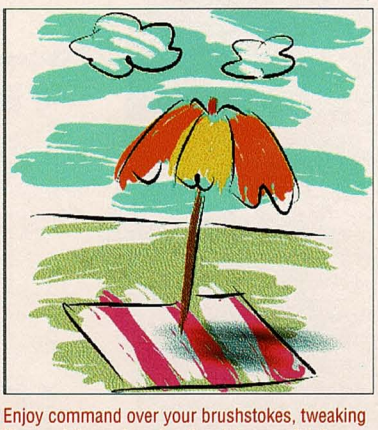
As you sketch out your design, you can choose different strokes to suggest pressure, or simply use a pressure-sensitive graphics tablet. Each stroke is an individual element you can restyle by choosing another line design from the curiously-named **Stroke Warehouse** palette. Turn a precise technical drawing into a roughly-hewn wood carving or an Impressionist sketch. Unusually for a drawing program, *Expression* also gives you paint-like features including partial or full transparency, enabling you to build up layered effects of translucent colour.

You can define your own marks and strokes from any existing vector-based image, opening up huge possibilities for special effects.

As you'd expect from any new drawing program, *Expression* offers a full range of drawing options and tools, including Bezier, polyline and b-spline – different ways of building up shapes with a high degree of control.

Expression lacks some of the features that make a program like *FreeHand* almost as much a desktop publisher as a drawing program – instead it's pure art. The idea is that you use *Expression* in conjunction with your existing drawing program – *Illustrator, FreeHand* or perhaps the forthcoming *CorelDraw* (What's New, MACFORMAT 39) – copying files from one of the latter to *Expression* to add a natural look to your work before taking it back again.

■ Price: £350. ■ Out: late summer. ■ Requires: any colour Mac with FPU (such as Quadra) and 8Mb of RAM, or PowerMac with 12Mb of RAM, System 7.1, CD-ROM drive. ■ Contact: Principal Distribution on 01706 832000.



Enjoy command over your brushstokes, tweaking them subtly or changing the style completely.

NEW FOR THE NET

SiteMill slashed

The recommended price of Adobe's *SiteMill*, a program for creating and managing sites on the World Wide Web, has dropped from £470 to around £153 – a dramatic cut of 67% that reflects the explosive growth in Web sites and the corresponding demand for production software.

Like its companion program *PageMill* (reviewed in MACFORMAT 35), *SiteMill* offers graphical tools you can use to construct the HTML code that describes Web pages,

Now you can organise your Web site for less as the price of *SiteMill* plummets.

enabling you to assemble and design pages without the need to learn the codes themselves. But *SiteMill* also offers you features that make it easier to maintain a site once the pages are available on the Web. If you move a page to a new location, for example, *SiteMill* will automatically update all the links to that page. It will also test your links and correct any that point to addresses that aren't there any longer.

If you bought *SiteMill* at its old price and are feeling a little disgruntled at this news, Adobe will be sending registered *SiteMill* owners a free copy of *PageMill 2.0* when it's released later this year. *PageMill* itself keeps its current price of around £88. Contact Adobe on 0181 606 4000 for more details.

JFAX – a fax killer?

The ubiquitous fax takes a step closer to being integrated with another telecommunication staple, the Internet, with the release of JFAX Personal Telecom. Combining an Internet account with Mac software, JFAX enables you to receive fax messages and voicemails through e-mail. Now you can throw away that fax machine and use your Mac instead.

The faxes arrive via a special e-mail account you take up through JFAX and Internet service provider Easynet, which costs £9.40 a month with a one-off connection fee of £11.50. The monthly rate includes 100 fax pages or voicemails (subsequent messages cost 15p each). The JFAX software is free. Faxes arrive as a standard enclosure, with the information converted into graphic form, while voicemails are enclosed as audio files. You don't need an extra phone line and, unlike with existing fax software for your Mac, you don't have to keep the phone line open to receive the fax, because the e-mail is stored until you log on.

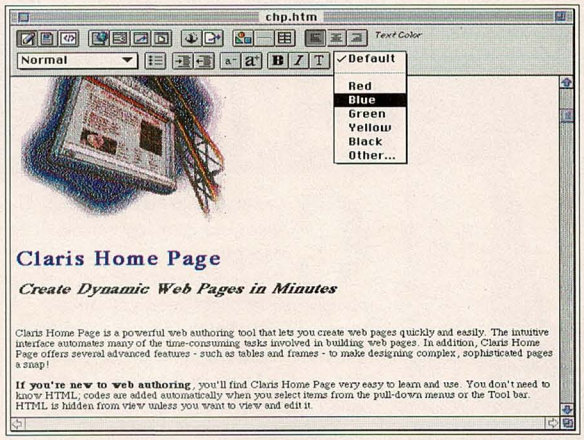
You can receive faxes sent by a regular machine without the sender noticing any difference, as the fax is sent to a personal fax number that is linked to your JFAX e-mail address. For more details call JFAX on 01273 818854, or fax 0171 681 1001.

Claris stronger on the Net

Two new programs from Claris promise to establish it immediately as a major supporter of the movement to make using the Internet easy with your Mac. *Home Page* gives you simple tools to create Web pages, while *Emailer* organises your electronic mail, across several accounts if necessary.

Like the well-known *PageMill* (version 2.0 of which is due soon), *Claris Home Page* hides the HTML code used to construct Web pages from view, enabling you to build pages in the same way as you'd design something in a DTP program. *ClarisWorks* might be a more accurate analogy, as the *Home Page* interface closely resembles that of its stablemate, with the familiar tool bars and icons used across many Claris programs ready to use. You can style text and drop in graphics at the touch of a button.

Home Page also offers more powerful features to appeal to more experienced Web authors. You can design pages including advanced elements like *Netscape*-compatible frames and tables


chp.htm
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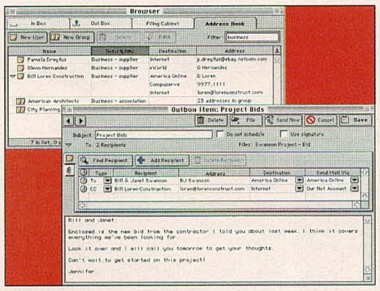
Claris Home Page
Create Dynamic Web Pages in Minutes
Claris Home Page is a powerful web authoring tool that lets you create web pages quickly and easily. The intuitive interface automates many of the time-consuming tasks involved in building web pages. In addition, Claris Home Page offers several advanced features - such as tables and frames - to make designing complex, sophisticated pages a snap!
If you're new to web authoring, you'll find Claris Home Page very easy to learn and use. You don't need to know HTML; codes are added automatically when you select items from the pull-down menus or the Tool bar. HTML is hidden from view unless you want to view and edit it.

Home Page enables you to create pages for the Web, using the trademark Claris interface.

for a more sophisticated layout. And you can store frequently-used items and page templates in a library similar to the ones in DTP programs, ready to call up and use whenever you like. If an item contains a link, it will still work when you pull the item from the library and place it in a page.

Claris Home Page will be out later this summer, and the price is still to be set, but its companion *Emailer* is already out for around £57. It's an e-mail organiser, displaying lists of your incoming and outgoing messages. You can also set up a handy address book of all your regular contacts, storing several e-mail addresses for a single person if necessary.

Similarly, *Emailer* can also process mail you receive through several addresses spread over different accounts if you have them, giving you a single list of mail to go through. You can set up the program using a straightforward questionnaire – the software takes care of configuring your Mac to match your needs. For more details on *Emailer* and *Home Page*, contact Claris on 0181 756 0101.



Claris Emailer enables you to sort out your e-mail, and it's really easy to set up, too.

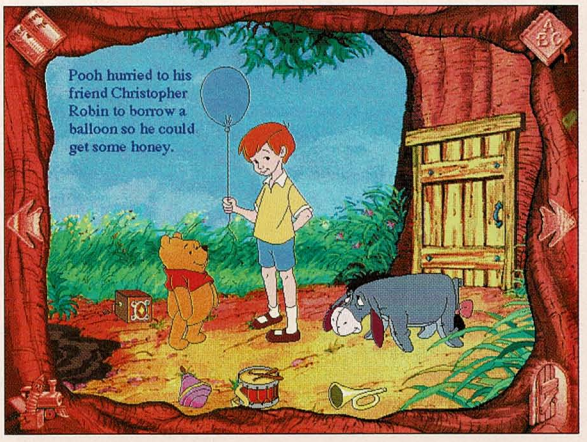
Continued on next page

Winnie the Pooh

Disney's version of A A Milne's famous stories comes to CD-ROM in *Winnie the Pooh and the Honey Tree*, the latest in the Disney *Animated Storybook* series. The tale of Pooh, Christopher Robin, Rabbit and the rest is shown across 18 pages animated in the familiar Disney style.

Pooh is after honey again. This time he gets stuck in Rabbit's burrow and his friends have to help him get unstuck, leading to the discovery of the Honey Tree.

Each page of the storybook contains hidden surprises you have to find with your mouse, plus a talking dictionary to explain any tricky words. You're also treated to five songs you can sing along to, and a series of games that develop your child's co-ordination skills as he plays. The *Winnie the Pooh Animated Storybook* is out in September for £39.99. For more details contact Disney Interactive on 0171 605 2738.



Join Winnie the Pooh and his pals Christopher Robin and Eeyore. (Picture © The Walt Disney Company.)

Eve

Peter Gabriel is the man at *Eve's* heart. Here he's posing as one of the characters.

Explore surreal landscapes to uncover hidden treasures you can make music with later.

Eve features virtual worlds created with the help of some of the world's finest artists.

Combining music, art and the most compelling parts of computer interactivity, *Eve* is the second CD-ROM project instigated by acclaimed musician Peter Gabriel, following his *Xplora 1* disc three years ago. Created on a Mac using Apple's *HyperCard* before Apple seriously viewed that program as a multimedia tool, *Xplora 1* was one of CD-ROM's first hits. It showed that a CD-ROM could offer new ideas and new ways of viewing information.

We'll have to wait and see if *Eve* has a similar impact, but it's certainly an ambitious title. *Eve* introduces you to a place where music meets science and fine art is blended with the power of technology. Artists, scientists, philosophers and programmers have worked together to form a collective that expresses its ideas through multimedia, with Gabriel as the conductor.

An adventure that becomes more of an interactive plaything, *Eve* immerses you in a world constructed from video, music and animation. Hidden throughout this place are fragments of these media that you have to find and collect. *Eve* is almost a game in the inscrutable, imprenetrable tradition of *Myst*, its imagination sweeping you up despite the basic nature of the quest.

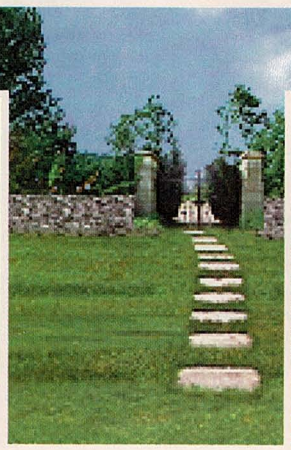
Later, as you gather enough material, you can use it to create music, selecting snatches of vocals and instrument to play over a variety of backing tracks. There are hundreds of such fragments and locations where you can use collections of them – the more you find, the richer the music you can create. This isn't a virtual recording studio in the on-screen mixing desk style so prevalent in music CD-ROMs a couple of years ago: each piece of sound is also expressed visually, enabling you to set free animations across a backdrop that changes as you switch backing track.

The visuals were carefully assembled to suit Gabriel's music. He recruited four fine artists – Cathy de Monchaux, Yayoi Kusama, Nils-Udo and the late Helen Chadwick – to create works using their skills in painting, sculpture, performance art and – in the case of the latter artist – landscaping. By selecting the work of artists he felt were creatively in tune with himself, Gabriel and his design team at Real World Multimedia now had distinctive material with which to make their world into virtual reality.

Eve has a narrative consistency that gives you the freedom to decide what it's about and what it's trying to tell you. The framework of your travels is that Adam and Eve, the first people, who are represented at first here as a symbolic whole being, have been broken apart. The chaos unleashed is shown as the fragments you collect, with the Paradise around you dissolving to mud and recovering again as you collect the pieces. It could be an ecological allegory or a fable of human relationships, or neither of these; but *Eve* is clearly a tale that says a generous mind will be rewarded, and that we're all travelling hopefully towards a better place.

Price: TBA. Out: late autumn.
Requires: TBA.
Contact: Mirage on 01260 299909.

Explore the world of *Eve* enough and you'll have a full set of video and sound samples to experiment with.



Gabriel watches as the paradise you started with turns to wasteland.

NEW FOR THE MAC

SyQuest makes it EZ-er

SyQuest has cut the recommended price of its EZ135 drive to £105 from its previous £194, a fall of 46%. The EZ135 is a high-speed drive that uses cartridges similar to a hard drive, and is able to match the latter in speed. Cartridges for the EZ135 hold 135Mb of data each, and the price for these remains at around £15. For more details contact SyQuest on 0800 526599.

RAM Doubler returns

A huge success on its debut, *RAM Doubler* is updated to its second major version this month. The package's name explains it all, really: *RAM Doubler* is a program you can drop into your Mac's System Folder to increase the amount of RAM you have available. This is achieved through clever memory management and use of your Mac's hard drive for virtual memory. Version 2.0 makes the name misleading for the first time, as the program can now *triple* your available RAM.

Connectix, the maker of the best-selling utility, claims that *RAM Doubler* is now also twice as fast. And you'll have more control over *Doubler's* performance, thanks to a new Control Panel, where you can balance speed and reliability using a simple slider control.

RAM Doubler 2.0 is out this month, but the price is yet to be finalised. Contact Computers Unlimited on 0181 200 8282 for more details.

Adobe's free DTP CD

Adobe is offering you a free CD-ROM containing a demo version of its desktop publishing program *PageMaker 6.0*, along with technical advice, tips and tricks. There are also demo versions of plug-in programs that add extra features to *PageMaker*. You must live in the UK to be eligible for your free disc, and the offer is open until stocks of the disc run out. For more details contact Adobe on 0181 606 4000.

Wacom wipe-out

Wacom's UltraPen Eraser, used with its graphics tablet range, has been redesigned to include two side switches. You can program either button to represent a keyboard press or mouse click, extending your options as you use the pen to draw graphics directly into your Mac. The

UltraPen has a nib at each end, one for pressure-sensitive drawing, one for erasing. It is now a standard part of Wacom's UltraPad range, which starts at £387 for an A5 tablet. If you already own a Wacom pad, you can buy the pen separately for £69.33. Contact Computers Unlimited on 0181 200 8282 for more details.

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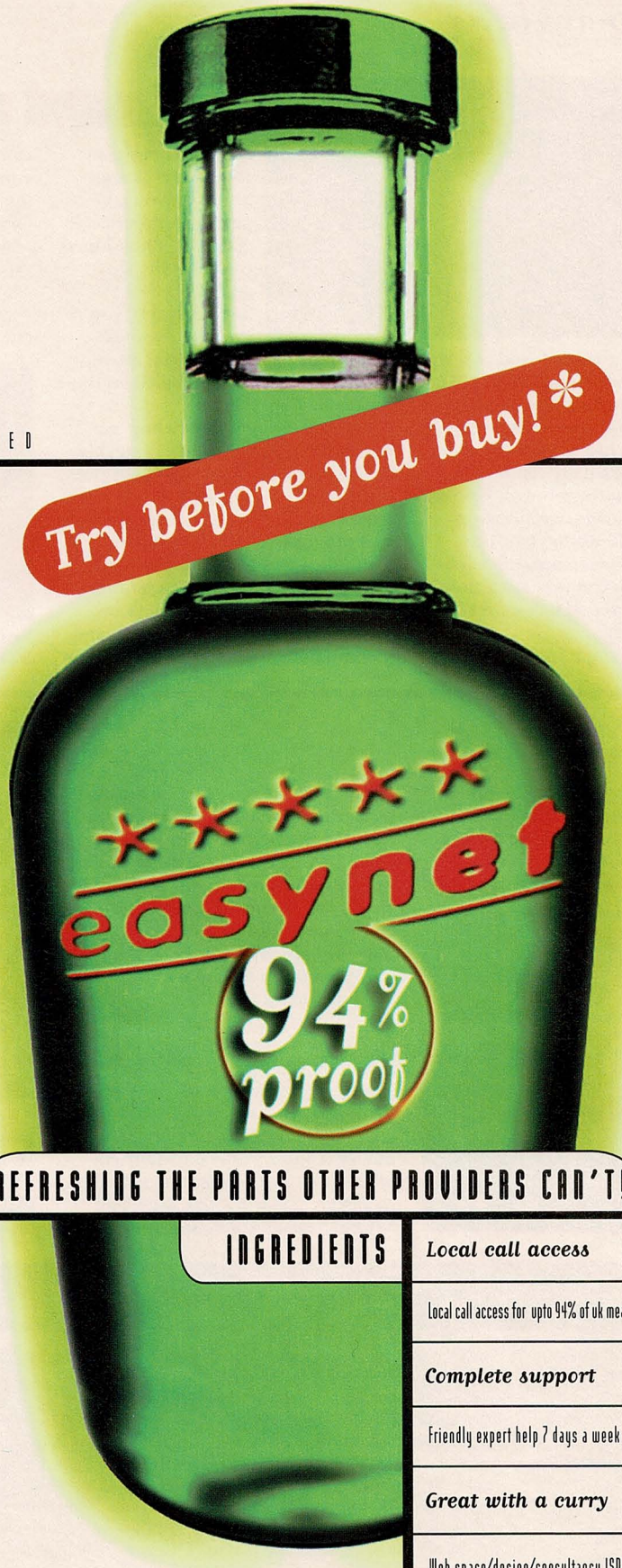

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Command and Conquer

Take on the forces of evil (or *be* the forces of evil if you prefer) in the combat strategy game *Command & Conquer.*

The Brotherhood of Nod is a shadowy cult drawn out of secrecy by the promise of a new mineral that's been discovered. Emerging from hiding, the members of the cult aggressively capture land areas containing the mineral, holding the world to ransom. Desperate to stop them before it's too late, the United Nations assembles the Global Defence Initiative to take back the land the Brotherhood has seized – by force if necessary.

It's here that Virgin Interactive's action strategy game *Command & Conquer* begins, as you take part in worldwide dogfights. Choosing to control either the good guys or the baddies (yay!), you're given an overhead view of the battlefield as you attempt to fulfil your mission and prevent the other side from winning.

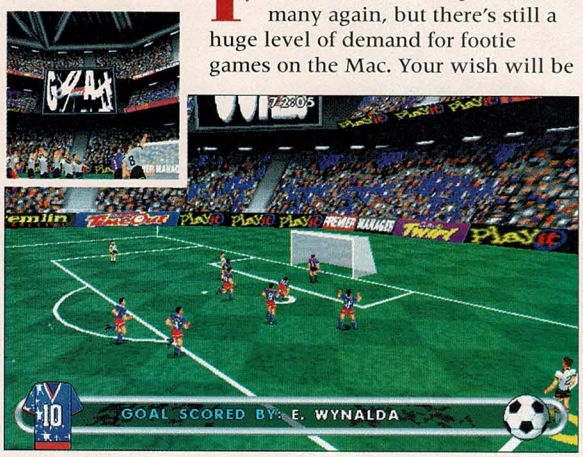
After receiving your briefing, it's into battle with troops, tanks and big, big explosions as your playthings. The game takes place in real time, so you have to make split-second decisions that can make or break your careful planning. Units you're not in direct control of are able to act under their own initiative using *Command's* artificial intelligence.As you capture land you can mine the precious mineral for cash, building up a support network you'll rely on as you progress through the missions and get to play with more exotic weapons. But you have to plan ahead, making sure your resources aren't stretched.

Fast and furious yet still tactically challenging, *Command & Conquer* is due out before Christmas.

The furious real-time action is intercut with animated sequences as the story unfolds.

Actua Soccer

Football may have come home and returned swiftly to Germany again, but there's still a huge level of demand for footie games on the Mac. Your wish will be granted with *Actua Soccer,* an action-packed 3D battle held on hallowed turf. No release date is set yet, but this could be the soccer game you've been waiting for.



At last soccer comes to the Mac with super-real footie sim *Actua Soccer.* Flowing 3D action plunges you into a heated stadium atmosphere.

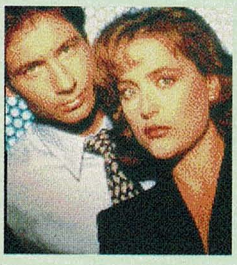
Actua gives you the chance to control a team of 11 computerised players as they scurry around a field in the hope of scoring goals. You can learn to pass, dribble and tackle, developing the right team strategy to become the champion of the world.

Actua developer Gremlin is going all-out for realism, with computerised players that were created by videoing professional players from Sheffield Wednesday and converting their movements into flowing animation. Your matches take place in a stadium packed with passionate supporters, while *Match of the Day's* Barry Davies provides commentary.

GAMES PARADE

The next 12 months should enhance the Mac's reputation as a proper games machine, with a wider variety of game styles fleshing out what's already a large and high-quality range of titles. Now the big guns are being drawn for the autumn and 1997, with heavyweight publishers like Gremlin, Fox and Team 17 launching titles on the Mac for the first time.

The X-Files



You've heard of *The X-Files,* we take it? This spooky TV smash hit is going to be a CD-ROM next year, giving you the chance to join FBI agents Mulder and Scully as they try and figure out what's going on and who they can trust. As usual.

There are few details at the moment, but you can expect a game made as close to the TV show as possible, using a system called VirtualCinema to show lead actors Gillian Anderson and David Duchovny in investigative action. The duo will be filmed in scenes made especially for the CD-ROM.

The disc comes from Fox Interactive, a new multimedia spin-off from the famous film and TV studios. Fox will also be producing Mac titles starring the Simpsons, and you can expect more spin-offs to follow.

Down in the Dumps

Meet the Blubs: they're the stars of Philips' November adventure *Down in the Dumps.* This whimsical yarn immerses the Blubs in an odyssey to recover parts for their spaceship after a mid-space collision. The thugs who are responsible for the mishap also fall to Earth,

The Blurbs, stars of *Down in the Dumps.* It's not rubbish.

trying to stop the Blubs finding their way home again.

You have to guide each family member to a different part of the rubbish dump they find themselves in, solving puzzles and outwitting your opposition to save the family. *Down in the Dumps* has already won an award at London's prestigious LEAF animation festival, and gives you four CD-ROMs of story to enjoy.

Euro Manager 96

October should see the release of long-awaited football game *Euro Manager 96.* It's the game we had the most enquiries about following MACFORMAT 37's free MACGAMER supplement. Team 17's strategy title puts you

Duke Nukem 3D

Welcome to the Los Angeles of the future, where the cops are pigs – quite literally in fact. US Gold's *Duke Nukem 3D* is an orgy of testosterone where you have to use your wits and every weapon you can get your hands on to survive.

Duke is a 3D shoot-'em-up, superficially similar to the game style made popular by *Doom* and first superbly realised on the Mac with the release of *Marathon*. But developer 3D Realms reckons it's got plenty of ideas you've never seen in this type of game before.

A realistic 3D environment wraps the city around you: you can roam the streets or enter multi-storey buildings such as shops or cinemas. If you blast a hole in the ceiling, for example, you'll see another creature-infested room above. And your interaction with your surroundings is enhanced by your use of gadgets like bombs and lasers that you can plant to detonate just as the nasty thinks you're at its mercy. But as it's LA, earthquakes could strike at any moment, demolishing the room and placing you in peril.

With weapons ranging from pistols and chainguns to shrink rays and holograms, *Duke Nukem 3D* looks like a particularly enjoyable form of complete mayhem – although there's no firm date set for release. If you're looking for trouble you've come to the right place.

Oh no, it's the pigs... Duke's world is filled with brutal animals, all out to get you.

Duke Nukem 3D is the latest in an honourable line of games packed with death and destruction. There's nothing like it.

The city in *Duke Nukem* is imaginatively designed, with interiors and exteriors that are closely linked.

Duke Nukem 3D promises the widest variety of weapons yet seen in a first-person blaster.

Worms

Team 17's *Worms* plunges you into cartoon warfare as two annelid armies combat each other in a fight to the finish. With a sideways-view landscape and tiny animated figures packed with personality, *Worms* appears similar to the classic *Lemmings* at first, but once you start playing it feels very different. Two players can take each other on, and you each control a platoon of Worms, armed with a choice of weapons for you to deploy.

You're offered a variety of landscapes and different climates to affect the settings, or you can create your own instead. Make the Worms clamber up hills and leap over ravines, get them into position to launch the attack – then choose your attack style; anything from grenades and pop-guns to dynamite and the ever-reliable all-out missile strike. Each weapon has a different effect you'll need to cater for in your movements and timings, adding plenty of strategy to the chaos.

Eight teams, controllable by either human hand or computer logic, can take each other on, carrying out duels and winning points for a league table until the champion emerges. Prove your Worms aren't wimps. Look out for *Worms* this month – there'll be a full review in MACFORMAT soon.

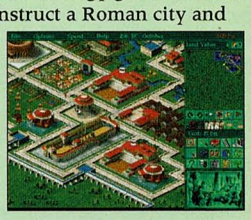
Take on seven other (real or computer) players in a league, until only one Worm is left standing.

Worms tests your skills and ingenuity in fast-moving cartoon combat action.

in the shoes of Ferguson, Keegan and Hoddle as you fight to get your team to the top of the league. *Euro* enables you to play friends across a network and – most exciting of all – an Internet option is under investigation, giving the boot to fantasy football for a more interactive version.

Caesar II

Due in October, Sierra's strategy game *Caesar II* challenges you to construct a Roman city and help it thrive during the time of the great Caesars. You must plan your city to work as effectively as possible, placing hospitals, temples and market squares to their best effect. As the population grows, you must spend your tax revenues wisely, using your military carefully to preserve peace among natives that can often become restless.



Become a *Caesar* in Sierra's richly-detailed Roman sim.

If *Caesar II* seems a little like a sort of *SimAncientRome*, drawing heavily from Maxis' *SimCity* series, you may still find that the period setting creates demands that will take sim games into a new era.

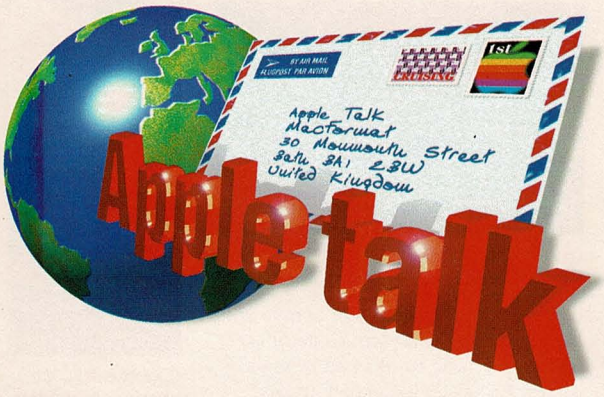
IndyCar Racing 2

Long delayed after its preview in the first MACGAMER (free with MACFORMAT 32 – turn to page 115 to find out how to get your copy), *IndyCar Racing 2* should finally appear in September. Based on the famous American cars and circuits, *IndyCar 2* pits you against other drivers as you speed around 15 varied tracks. You can also tweak features on your car – including tyres and suspension – to get the maximum performance from your vehicle.

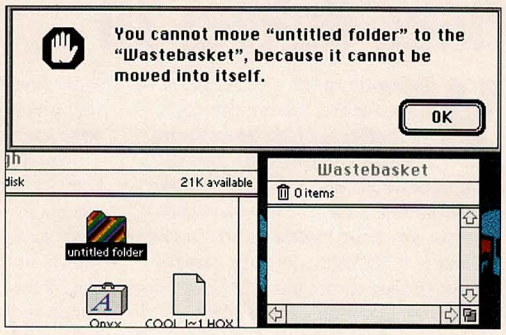
Safecracker

As the title suggests, Warner Interactive's *Safecracker* is a battle of wits, challenging you to break into a secure building, opening safes by solving puzzles. Each puzzle tests your logic and skill, but what's the most appealing thing about the game – particularly if you're a Mac devotee – is that it looks like being the first game to use QuickTime VR, Apple's innovative virtual reality technology. *Safecracker* uses QuickTime VR to enable you to explore the rooms fully, looking in any direction as you seek out the 35 safes.

Due out this month, *Safecracker* exploits Apple's QuickTime VR system in a test of logic.



Silly Things Your Mac Says, number 439, from Igor Clark, who was simply trying to drag an empty folder into the Wastebasket. 'Stupid 'puter,' he says. Can't disagree there. Has your Mac given you a silly message? Grab it by hitting **[command] [shift] 3** and send it in to us on disk or via e-mail!



Observations, suggestions, opinions – all welcome! Write to: Alex Summersby, AppleTalk, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

Whatever you've got on your mind, write and let us know. Send us your Mac-related views and thoughts, and get a binder if your letter is published on these pages.

THE VERY IDEA!

It's a radical concept, but it works like this: every letter and postcard published on these pages wins a MACFORMAT binder. If you don't write, or can't or won't, you can still get a binder of your very own by turning to page 115 and ordering one. Who'd have thought it?

You made me love you

THE APPEAL OF THE MAC

There is a rumour going around (I know, I started it) that with every Macintosh sold since 1984 there was a HYPNOSIS chip installed, which emits an invisible signal straight into the neural cortex of the user. The acronym stands for 'HYPer Neural Oscillating System Integration Signal'. This beams a suggestive self-repeating mantra into the user's brain:

- I cannot function without my Macintosh.
- I despise DOS, Windows and all that is not Macintosh.
- I love my Macintosh out of all rational proportion.

I have never been able to understand the fanaticism with these wondrous computers but have been horribly (and happily) afflicted nonetheless. What is it about the Mac? From the 512Ks to the PowerMacs, there is a hold these machines exert over their users. There is also a clichéd computer dictum that states inside every DOS/Windows user, there's a Mac user desperate to get out...

Perhaps we can have some suggestions (aside from the HYPNOSIS chip) as to why this oh-so-friendly machine invokes such a fervent response in its users?

Alan Miller
Suffield, Norfolk

Personally, I always thought it was that friendly smiley face – but then Emma, our Production Assistant, pointed out that when you start up in the morning your monitor normally hasn't warmed up until after the smiley face has gone, so the only time you ever see it is when you're re-starting after a crash – and in those circumstances the last thing you want to see is your Mac smirking smugly back at you...

Sticky situation

SYSTEM 8 WISH LIST

I think System 8 should have menus where, instead of having to hold down the mouse button and drag down the menu to the item you want, the menus just stay there after you first click on them so you can just click on the item you want. I'm partially disabled, so I'd find this very useful.

Another thing that should be included is the ability to create aliases by **[control]**-dragging files rather than going to the **File** menu and selecting **Make Alias**.

Matthew McFarland
Bromley, Kent

We've heard that Apple is *going to make 'sticky menus' – that is, menus which stay open when you let the mouse button go – the default in System 8. If you want drop-down (rather than 'pull-down') menus right now, you can have them using* Auto Menus Pro. *It's a US$15 shareware Control Panel we included on our Cover Disk and CD last issue, along with a selection of other Finder-enhancing utilities to accompany the first part of our 'Enabler' series on how innovative technologies are being used to help the disabled use their Macs. Part two is on page 66 this issue. If you missed last issue, turn to page 115 for details of how you can get hold of a copy.*

Not the real thing?

ADVERTISING ON THE NET

I don't like the way the Internet is turning into a free advertising network. Why does Pepsi need an Internet address? What possible reason would

A MISSED OPPORTUNITY?

In the past few months, Apple has just missed the perfect opportunity to display its technical prowess and innovation. Instead of latching on to a good idea when it saw one, it let a smaller Silicon Valley start-up company take advantage of the situation. I am of course talking about the Internet, Netscape Communications and its *Navigator* WWW browser.

Netscape Navigator has now become the de facto standard for surfing the Web on nearly all personal computers. Why didn't Apple apply its graphical user interface experience and innovative technological expertise to create a completely earth-shaking Web browser that would have redefined the Internet experience, before Netscape did? Now all Apple can do is license *Netscape Navigator* in its Internet Connection Kit.

Now Apple is about to miss another golden opportunity on the Internet to expand its influence, regain its prestige and improve its recent poor financial status. What I mean is this: has anyone ever thought about the fact that 90% of all communications carried over the Internet are in English? But of course, not everyone in the world speaks English or has the time to learn it. This severely limits the Internet's ability to become the supreme information source for people all over the world. So why doesn't Apple make a product that allows people to read and author e-mails, newsgroups and Web sites in a foreign language? This could be the killer application for the Internet that could also do wonders for Apple's corporate status.

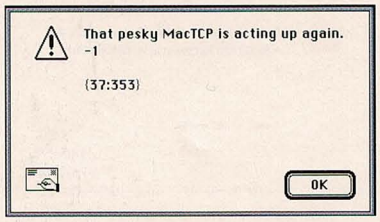
And how about making System 8 (or 9) a truly multi-lingual operating system by enabling it to switch between different foreign languages, so an English speaker and a Russian speaker could use the same Mac, but without wasting disk space for both the English and Russian language versions of the Mac OS? This could differentiate the Mac widely from Windows 95 and Cairo.

This is a golden opportunity for Apple (or Claris or Adobe for that matter) to make the Mac more technically innovative than Windows 95, giving the Mac a powerful weapon to increase its market share.

Alan Lu
West Wickham, Kent

A multi-lingual operating system – or rather, one in which you could switch between languages – might be useful, but it would still take disk space to store the multiple language resources. In any case, Apple already has a 'foreign language' technology that no-one else can hold a candle to – it's called WorldScript and (among other things) it enables you to switch between Roman and Cyrillic alphabets in the same document if you want to, provided that the program you're using supports WorldScript.

As for Apple not beating Netscape to the punch: well, it's easy to be wise in hindsight. Why didn't Apple get there first? Why didn't it have every *good idea before anyone else? If only life were like that.*



This one's from Graham Leech, who says he gets this message whenever his colleague tries to use the phone which shares a line with his modem... But with everything we hear about MacTCP, I can't believe it's actually innocent for once.

anyone have for actually going to it? Every company for some reason or another feels it needs an Internet site or its business will crumble into ruins. What's next? Plastic Coated Freezer Wrap on-line? These companies should remember that the Internet is for communications, not advertising, and I don't feel any great need to communicate with Pepsi, I'd rather just drink it.

Gavin McMeeking
via FutureNet

See, the Net is cool and hip and happening. Every company wants to be part of that. And one day, the public will be there too, not just the Net nerds.

A better keyboard?

ALTERNATIVE INPUT DEVICE

The alternative keyboard your reader James Kavanagh asks about in MACFORMAT 38 is probably the 'Velotype', a device developed here in the Netherlands in the early '80s.

Although it was conceived more than 50 years ago, practical units were not built until 1982, when microprocessors became generally available.

Basically, this keyboard consists of a central column of five large keys (the vowels) with the consonants on both the left and right of this central column; the right side is a duplicate, mirror image of the left. The philosophy behind this set-up is that you type syllables, rather than letters. By pressing three keys at once, you can form any syllable – that is, consonant-vowel-consonant. The internal microprocessor reads the three keys on a left-to-right basis.

Tests showed that this system is far superior to the QWERTY keyboard: it took only weeks to learn, rather than months, and typing speeds were two to three times higher than with a QWERTY keyboard. In fact, it was possible to keep up with people speaking, so it was deemed ideal for taking notes at meetings and such.

This alternative keyboard failed in the market for the same reason all alternative keyboards, before or since, have failed (like the DVORAK keyboard). Despite massive support from the Government and marketing efforts by Philips, it again proved impossible to convince 500 million QWERTY users that they were on the wrong track Nothing short of an invasion from outer space will ever rid us of the QWERTY keyboard.

Amout Groeneveld
Hengelo, Netherlands

Thanks also to J Barelds of Eindhoven, who adds that the Velotype or 'butterfly' keyboard is apparently only used by some Dutch television broadcasting companies to write Dutch subtitles on the screen, for instance when interviews in a foreign language must be subtitled in a live broadcast.

The Velotype sounds a lot like the shorthand keyboards that you see court stenographers using in all those old Perry Mason episodes. But inputting standard symbols, or even syllables, is one thing; in the case of a language with spellings as illogical as English, how are you ever going to translate your input into proper words?

Still going strong

DON'T BUY A NEW MAC?

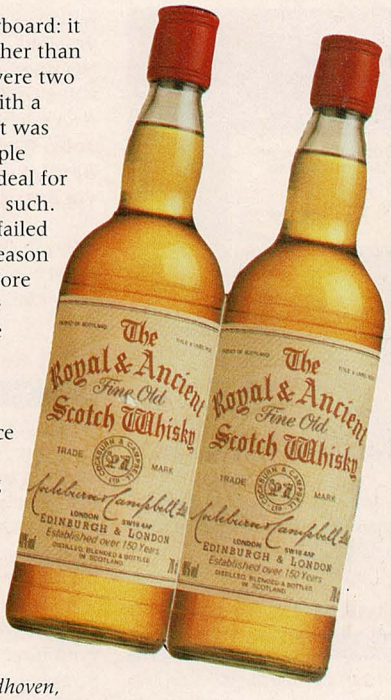
In MACFORMAT 38, Alan Skerrett wrote that Mac owners needn't worry about the rate at which the Mac is evolving because most of them 'don't need the latest, greatest RAM-hogging technology'. There's one other key issue, one missed regularly, and particularly by the PC press.

I am an IT consultant and I have just finished upgrading Mac users belonging to a large corporate network. In this project any PC more than three or so years old was replaced, but Macs as old as 11 years old were upgraded and worked – slowly I will admit – with the latest system (7.5.1), the latest version of *MS Office* with the latest Novell client and the latest of all the applications we wanted to put on!

This I find is not unusual. Macs are in most corporates left to get a *lot* older than PCs. So with 11 year old Macs functioning better than three year old PCs, isn't it time that the statistics were updated to show just how many Mac users there really are? My guess is somewhere near twice what they say would be a good starting point.

Don Collier
Semaphore Communications Ltd
via FutureNet

Interesting point, though more and more software requires a PowerMac to run at all. Personally, wtth rock-bottom prices and Mac clones arriving in force, I'd say now



Steve Thomas tells us this is the sort of thing his LC630 says all the time. Though it's probably not a 630 at all, it's really a 1272.5, or something...

Two more MACFORMAT binder winners. Left, a 'double scotch' postcard from Iain MacKenzie of Plockton, Wester Ross; and right, this (plastic) bottle contained a piece of 'parchment' from Edward Callan of Dublin. Remember, whenever you write to MACFORMAT or enter a competition, an eye-catching postcard (or, er, bottle... not that there's a pattern here or anything) could win *you* a binder too!

Continued on next page

HOW TO GET IN TOUCH WITH MACFORMAT

- Our address for letters is on the opposite page – the shorter your letter, the better its chances of being printed. Longer letters may appear in our regular 'Talking Point' section. If you'd like a letter included in the Readers' Corner on our CD-ROM, make sure it contains no defamation or obscenity, then send it in as a *TeachText* document on a disk marked 'MACFORMAT Readers' Corner'. Include your name and address, and note that we can't return your disk.
- Our fax number is 01225 446019. Please write 'MACFORMAT' prominently at the top so our receptionists can tell which of Future Publishing's 40 magazines to forward it to.
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Jane Ban, 'a dedicated MACFORMAT reader in Singapore', sent this in because she thought it sounded like what Woody might say to Buzz. (Us, we've only heard it from *JPEG-View*...) The picture is (almost certainly) copyright The Walt Disney Company.

was a good time to buy a new Mac. Next issue, we'll be testing every *current Mac and Mac-clone available in the UK.*

What's worse than porn...

THE GREAT 'PORN' DEBATE

I'm sorry to harp on about this subject, but I cannot believe the pompous letters written to MACFORMAT concerning the shareware game *Strip-Mac.* First we had a doctor suggesting that this type of game leads to promiscuity, which is leading to the break-up of society. Then we had Micheal O Fearghail losing me completely in an 'orgy' (pun intended) of lateral thinking. We have ranks of so-called 'Christians' threatening to cancel subscriptions if 'schoolboy smut' appears on the Cover Disk. Well, chaps, I live in a country (Switzerland) that is not exactly renowned for its 'corrupted children' or its 'perverted murders', and yet we have sex shops and even a sex supermarket that sell products that make 'Strip-Mac' look like a knees-up at the Vatican. You have missed the point of our Christian religion completely (surely a liberal, caring religion which places great store by the word 'love'). If you wish to preach morality, then watch for the violent games or those which glorify war *(Doom* scares my 16-year-old, she finds the 'porn' on the Net puerile). *Strip-Mac* or Net nudity will hardly pervert society, but *Blood Bath* might well.

John Richards
Basel, Switzerland
via FutureNet

Why are *the British so much more ready to accept over-the-top violence than the merest hint of sex, on TV as well as in software?*

You don't want to do that...

SYSTEM 8 WISH LIST

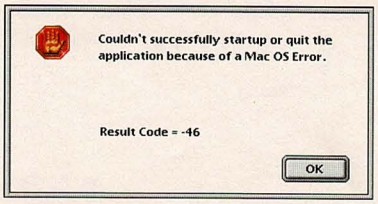
How many times have you 'cleaned up' your carefully arranged window or Desktop only to watch all your icons completely rearrange themselves exactly where you don't want them, with no possibility of halting or cancelling the action? Sound familiar? Why can't we have some sort of Undo support within the Finder? We could even have this feature extend to the Scrapbook as well – for example, uncopy and un-paste.

Also, I used *7Tuner* (which you distributed on the MACFORMAT Cover CD) to give me command keys for actions such as **Empty Wastebasket**, **Restart**, etc, and I would like to see this become standard.

Finally, ever had the situation where you wanted to copy a folder full of items but only wanted to replace the outdated items? What System 8 needs is a 'replace only older items' button. This could extend to an 'only replace items with the same names' button, and probably five other variations as well. (Not that I'm complaining, Mr Amelio, Sir!)

Alex Turnbull
Edinburgh

I've always wondered what the logical distinction was between things you could undo at Finder level (like changing file and folder names) and those you couldn't. But I don't want to complain either. I'm grateful to have an Undo at all. At the moment, my Mac Plus just doesn't seem to recognise the ***[command] Z*** *combination, though other* ***[command]*** *key combinations work fine and I can type a Z with no problem.*



This rather catch-all message comes from a reader who signs himself simply 'Koodge', from Adelaide in South Australia. He says he hassles his local newsagent for MACFORMAT every month even though it costs Aus$14 – and then this box popped up while he was perusing one of our Cover CDs! You'd think we'd be more grateful...

Rhymes and clichés

AND FINALLY...

I enjoyed your review of *A Zillion Kajillion Rhymes and Clichés* in MACFORMAT 37, and I offer you my own personal poetry classic:

I do lots of work on my Mac;
Without it, I would get the sack.
I do jobs in Quark,
But not all of them work –
The printer sends some of them back!

Paul Baird
Houston, Renfrewshire

Oh dear. You need rhyme-finding software all right. But that does raise an interesting question: what is *the correct pronunciation of 'Quark'? Most of the people we talk to in the US pronounce it to rhyme with 'cork' (more or less). In the UK, most people seem to pronounce it to rhyme with 'dark'. Except one of our publishers, who insists it should be the former because the word comes from* Finnegans Wake *and that's how it's pronounced there. And he should know: he did a doctorate on James Joyce.*

And another thing: why did Apple spell it 'Macintosh' when the variety of apple after which it's named is the McIntosh? **MF**

WHERE IT'S NOT @

I have had a most frustrating day and I begin to see why most people think that the Net and ISP suck! Truly this is the domain of the nerds. For example: UK On-line (recommended by MACFORMAT in its cover feature in issue 39) rushed me by return of post all the software I could possibly require to set up my system. Only one problem: they sent me PC software despite my emphasising twice that it was a Macintosh and if it could be Power Macintosh native so much the better. I avoided using the term PowerPC as that was sure to confuse them. All to no avail.

But fear not, MACFORMAT had the correct software on its CD-ROM. No such luck, Jim: ConfigPPP had no dial-up telephone number, neither did the documentation that came with the PC disc and the Help Line is constantly stuck in an undefined queue – and long distance yet!

So I sent off for details from another supplier – again highly rated – except that their nearest Point of Presence is eight miles away, a regional call and not a local call as they seem to think. In fairness they do have an 0845 number as a standby but that is hardly the point.

This poor level of service for Mac users is enough to put all but the most determined off entirely.

As it happens, I do know how to set up a Mac for Internet access given half a chance. I'm no expert perhaps, but good enough to get by. But what about the absolute newbie? The providers' Help Lines all assume, as I did in my early days, that somehow or other it was all my fault, my stupidity and sheer inability to read the instructions carefully enough, though those instructions often left a lot to be desired.

So why do I now use CompuServe? It is available, it works, it is easy. Okay, it is slow and expensive for heavy users, but it is dream to install, and if you have any problems they do answer their phones promptly.

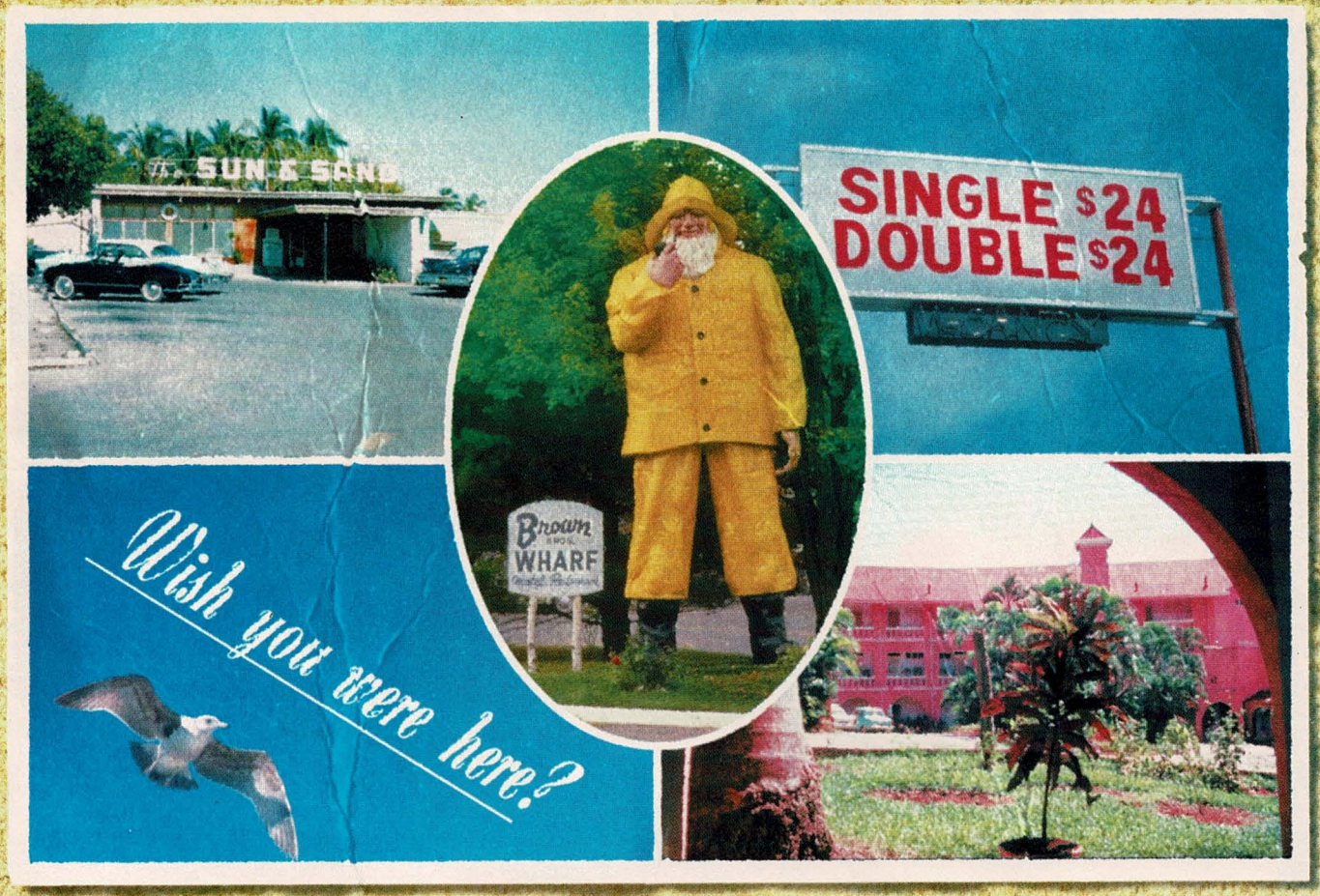
Frankly, CompuServe it is not really my cup of Java, but you can see the sense of their approach. Not only that, just haul your Mac across the Atlantic and bingo! It works seamlessly once you have bought the US power supply for your modem.

Once you're on the Net there is help on all sides – but getting there? Well!

Jim McCormick
Glenrothes, Fife
via CompuServe (for the moment)

As we also noted in our 'consumer test' of service providers in MACFORMAT 39, we were surprised at how poor the support was for Mac owners, considering that 40% of all people who browse the Web do so using Macs. Perhaps a service provider would care to comment?

BUDGET HOLIDAY?



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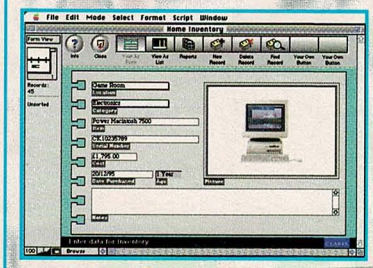

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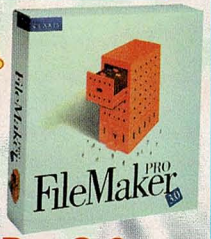

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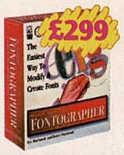

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CORG	**Claris Organiser** (full featured new database)	£49.00
EXPR	**Expresso** (actual desktop diary for your Mac)	£17.00
FLMK	**FileMaker Pro 2.1** (best flat file, everyone needs it)	£79.00
FLMR	**FileMaker Pro 3.0** (now with relational features)	£160.00
INFG	**InfoGenie** (info organiser, supercedes QuickDex)	£45.00
NOWB	**Now Up-To-Date 3.5 & Now Contact 3.5 Bundle**	£45.00
TPBP	**TouchBase/DateBook Bundle** (contact & calendar)	£29.00

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CLWR	**ClarisWorks 4.0** (market leading integrated package)	£99.00
DLTG	**Deltagraph Pro v.4** (best graph and chart program)	£115.00
EXCL	**Microsoft Excel 5.0** (market leader, great features)	£265.00
MSOF	**Microsoft Office 4.2** (Word, Excel, PowerPoint)	£375.00
WRKS	**Microsoft Works 4.0** (WP, DB, Comms, Draw, SSheet)	£85.00
MCMY	**MacMoney 4 UK** (home accounts/budgeting package)	£65.00
MYOB	**MYOB 5.0** (integrated single user business accounts)	£145.00
PERS	**Persuasion 3.0** (high end presentations with outliner)	£255.00
PWPT	**PowerPoint 4.0** (powerful, intuitive, easy inteface)	£265.00
SINQ	**Route 66** (road routefinder, includes UK map)	£45.00

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PHSPB	**Adobe Collection** (Photoshop, Illustrator, Dimensions)	£545.00
CLDW	**ClarisDraw** (powerful, easy to use draw package)	£95.00
ADIM	**Dimensions** (Adobe's 3D extension for Illustrator)	£110.00
DBLR	**Dabbler 2.0** (great beginners paint progra,)	£60.00
PSER	**Fractal Design Poser** (create human figures)	£119.00
FRND	**Freehand 5.5** (professional PostScript drawing & text)	£315.00
INFD	**Infini-D 3.1** (leading 3D modelling & rendering tool)	£525.00
ILST	**Illustrator 6.0** (pro PostScript drawing, text & layout)	£299.00
KPTG	**KPT Goo** (distortion special fx for Photohop images)	£39.00
KPTK	**Kai's Power Tools 3.0** (amazing filters for Photoshop)	£90.00
KPTV	**KPT Vector Effects** (Illustrator/FreeHand FX Plug-Ins)	£90.00
KPTC	**KPT Convolver** (adds power and ease to Photoshop)	£90.00
KPTD	**KPT Bryce 2.0** (3D Skies and landscapes)	£139.00
MCAD	**MiniCad 6.0** (native professional 3D design & analysis)	£495.00
RYDS	**Ray Dream Studio** (3D design, modelling, animation)	£199.00
PHOD	**PhotoDeluxe** (cut-down PhotoShop for non-professionals)	£85.00
PHSP	**PhotoShop 3.0** (special offer price - while stocks last!)	£349.00
PNTR	**Painter 4.0** (the premiere painting program)	£285.00
XRES	**xRes** (high resolution image editing and retouching)	£449.00

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CBxx	**Corel Images** (25 CDs of quality photographs)	£110.00
CBGB	**Corel Gallery II** (15000 clip art images)	£49.00
FNTG	**Fontographer 4.1** (best professional font creator)	£299.00
PMKR	**PageMaker 6.0** (power and ease of use)	£425.00
QKXZ	**Quark Xpress 3.32** (the professional's choice)	£649.00
QK	**Quark Xtensions** (we carry a wide range)	please call
TYSL	**TypeStyler** (manipulates PostScript fonts)	£99.00

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ECS1	**Epson Stylus Colour II** (brilliant quality colour inkjet)	£249.00
ECSH	**Epson Stylus XL A3** (A3 colour inkjet, non PostScript)	£895.00
HP34	**HP DeskJet 340** (portable colour inkjet)	£225.00
HP60	**HP DeskWriter 600** (superb new inkjet, Appletalk)	£219.00
HP66	**HP DeskWriter 660c** (colour and mono in one)	£289.00
HP85	**HP DeskJet 850c** (higher speed, 600dpi mono, 300 clr)	£349.00
PWPR	**PowerPrint** (driver and cable for non-Apple printers)	£79.00
STYS	**StyleScript** (print PostScript to StyleWriters)	£79.00

MONITORS

M17E	**Apple 17" 1705 Monitor**	£535.00
M17V	**Apple 17" 1710 AV Monitor**	£745.00
M20D	**Apple 20" Trinitron Monitor**	£1275.00
S21X	**Radius PrecisionView 21**	£1495.00
SN15B	**Sony 15" Trinitron Monitor CPD 15SF1**	£359.00
SN17B	**Sony 17" Trinitron Monitor CPD 17SF2**	£599.00

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AFSA	**Agfa StudioScan IIsi** (2400dpi, fast, the best)	£549.00
KD20	**Kodak DC20 Digital Camera**	£249.00
KD50	**Kodak DC50 Digital Camera**	£745.00
SME3	**Microtek ScanMaker E3** (600dpi, with OmniPage)	£259.00
STAY	**Nikon AX1200** (fast, 1200dpi res A4 desktop scanner)	£849.00
COOL	**Nikon CoolScan II** (35mm slide scanner)	£995.00
UVSA	**Umax Vista S6** (600dpi)	£259.00
UMPLP	**Umax PowerLook II Pro** (36bit 1200*600dpi)	£1599.00
OMPP	**OmniPage Pro 6.0** (OCR directly into applications)	£369.00
PPVX	**PaperPort VX** (greyscale desktop OCR and scanning)	£255.00

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MROL	**Motorola 3400** (MacUser Best Buy 28.8 baud)	£129.00
SPR5	**Sportster FaxModem** (28,800 baud, BABT approved)	£165.00
SPRM	**Supra FaxModem** (top quality, Grp III 28.8 baud)	£179.00
TLPP	**TelePort Platinum** (28.8 modem from Global Village)	£169.00

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Iomega ZIP £150.00

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PN23	**Pinnacle 230Mb Optical Drive** (inc cart)	£399.00
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D2DJ	**d2 4/16Gb DAT Drive**	£949.00

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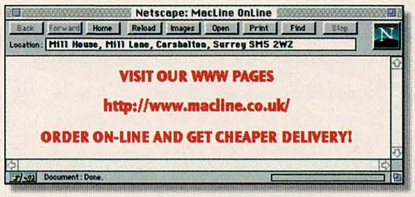
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QKML	**QuickMail 3.6 10 User** (powerful, flexible E-Mail)	£349.00
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MRPHB	**Morph 2.5** (morph from one QT movie to another)	£79.00
MDRT	**MacroMedia Director 5.0** (key multimedia tool)	769.00
PRMR	**Premiere 4.2** (Adobe's brilliant QuickTime editor)	£399.00
VIDD	**Video Director 2.0** (edit your home videotapes)	£85.00

PC COMPATIBILITY

DSMT	**DOS Mounter 95** (read/write PC floppies on your Mac)	£55.00
MLPT	**MacLink Pro** (best Mac/PC link with100's translators)	£105.00
PCEX	**PC Exchange** (Apple's own brand software)	£35.00
SFWD	**SoftWindows 3.0** (Windows 3 for PowerMac)	£199.00
SFWE	**SoftWindows 95** (Windows 95 for PowerMac)	£235.00

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INET	**Internet Access Kit** (Internet dial up, email, Web, FTP)	£25.00
NTSCB	**NetScape Navigator** (best browser, includes manuals)	£59.00
NUTW	**Now Web Publisher** (put diary/schedules on the net)	£215.00
PGML	**PageMill** (the ONLY way to create web pages)	£75.00
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FEVC	**MV16** (16 bit colour/10BaseT Ethernet for 5300/190s)	£329.00
GPCA	**PowerPort Platinum** (PCMCIA 28.8 fax modem)	£449.00
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WCU5	**Wacom UltraPad A5** (stylus and tablet)	£259.00
WCU4	**Wacom UltraPad A4** (professional stylus and tablet)	£359.00
VR256	**256K VRAM Chips** (adds more colours)	£19.00
VR512	**512K VRAM Chips** (adds more colours)	£28.00
VR9A	**1Mb VRAM DIMM** (for 7200, 7500, 8500)	£49.00
VR9B	**2Mb VRAM DIMM** (for 7200, 7500, 8500)	£139.00

PROGRAMMING

HYPC	**HyperCard 2.3** (new version, more power)	£95.00
CDWG	**Metrowerks Code Warrior Gold v.9** (PowerMac compiler)	£255.00
CDWJ	**Discover Programming with JAVA**	£69.00
THKC	**Think C 6.0** (the leading Mac app development tool)	£185.00
THKP	**Think Pascal 4.0** (excellent developer level compiler)	£165.00
FTBS	**FutureBasic II** (the best Basic for Mac, inc. PG Pro)	£179.00

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TTWCD	**Totally Twisted** (outrageous and irreverant, CD only)	£17.00

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ARTB	**Arthur's Birthday** (more Arthur)	£34.08 (£29)
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FNARD	**Fine Artist** (great fun paint program)	£29.38 (£25)
LJZCD	**Logical Journey of the Zoombinies** (rave reviewed)	£29.38 (£25)
HHHS	**Harry and the Haunted House** (the new best seller)	£34.08 (£29)
KDPCD	**KidPix Studio** (KidPix plus animation)	£29.38 (£25)
WTSCD	**Mr Wonder's Toyshop** (storytelling, music, rhyme)	£29.38 (£25)
RUFF	**Ruff's Bone** (adventures with Ruff the dog)	£34.08 (£29)
HARECD	**Tortoise and the Hare** (the epic race)	£34.08 (£29)
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MAGCD	**Art Gallery** (Microsoft's tour of the National)	£45.83 (£39)
BKSCD	**Book Shelf** (superb, for everyday reference needs)	£45.83 (£39)
CINI	**Cinemania 95** (19000 movie reviews and more)	£29.38 (£25)
DINO	**Dinosaurs** (the "must have" CD of the year)	£29.38 (£25)
NCRT	**Encarta '96** (fantastic multimedia encyclopedia)	£64.63 (£45)
EOFCD	**Encyclopedia of Science Fiction** (a complete reference)	£34.08 (£29)
GRLCD	**Groliers Encylopaedia 95** (21 vols, 9 million words!)	£45.83 (£39)
LLVCD	**Le Louvre** (tour the famous Paris Gallery)	£41.03 (£35)
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MPCCD	**Monty Python's Complete Waste of Time** (not!)	£34.08 (£29)
MPQCD	**Monty Python's Quest for the Holy Grail**	£34.08 (£29)
OEDCD	**Oxford English Dictionary** (the whole thing)	£499.38 (£425)
REDCD	**Red Shift** (superb astronomy program)	£45.83 (£39)
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2)	DOM2	**Doom II** (you may have heard of this game!)	£41.13 (£35)
3)	MYST	**MYST** (magical mystery adventure)	£41.13 (£35)
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6)	DKFCD	**Dark Forces** (brilliant game based on Star Wars)	£41.13 (£35)
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IFDCD		**In the First Degree** (play a murder prosecutor)	£41.13 (£35)
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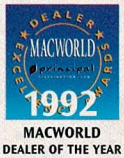

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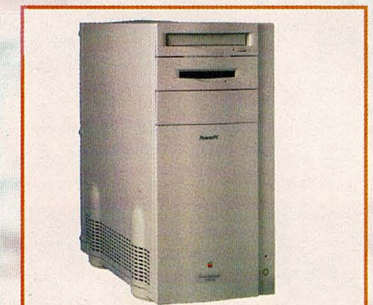

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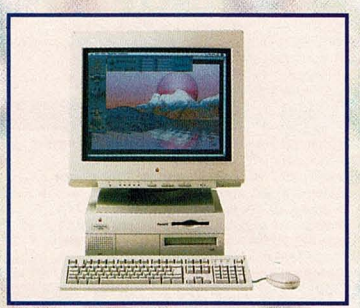

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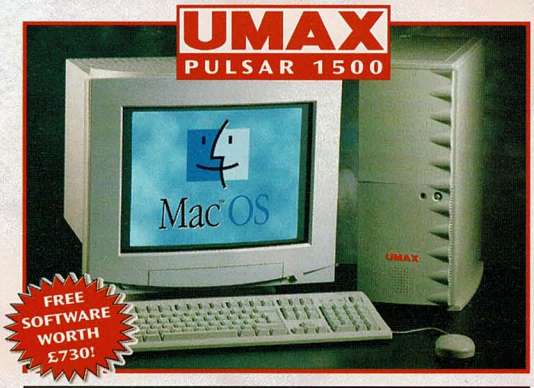

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With its 66Mhz 68040 processor, the PowerBook 190 4/500 is really fast. It sports a 9.5 inch backlit passive matrix 16 grey level screen, a slot for PCMCIA cards and a trackpad. It is also available with a dual-scan colour screen. Software includes ClarisWorks, Route 66, a great solitaire game and the PowerBook mobility bundle.

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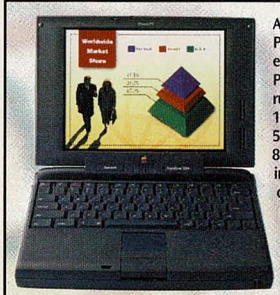

Apple's latest, hot PowerBooks are powered by a 603e PowerPC processor, running at a blinding 100Mhz. It has a 500Mb hard drive, 8Mb of RAM, a 10.4 inch backlit dual scan colour screen supporting 256 colours, at 640 by 480 pixels, a slot for two PCMCIA cards, 16 bit stereo sound and built in infra red technology which supports LocalTalk - so you can have wireless data transfer between PowerBooks - and infra red equiped Macs.

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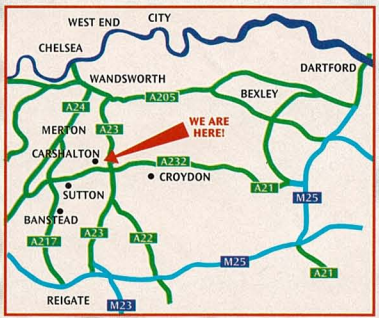

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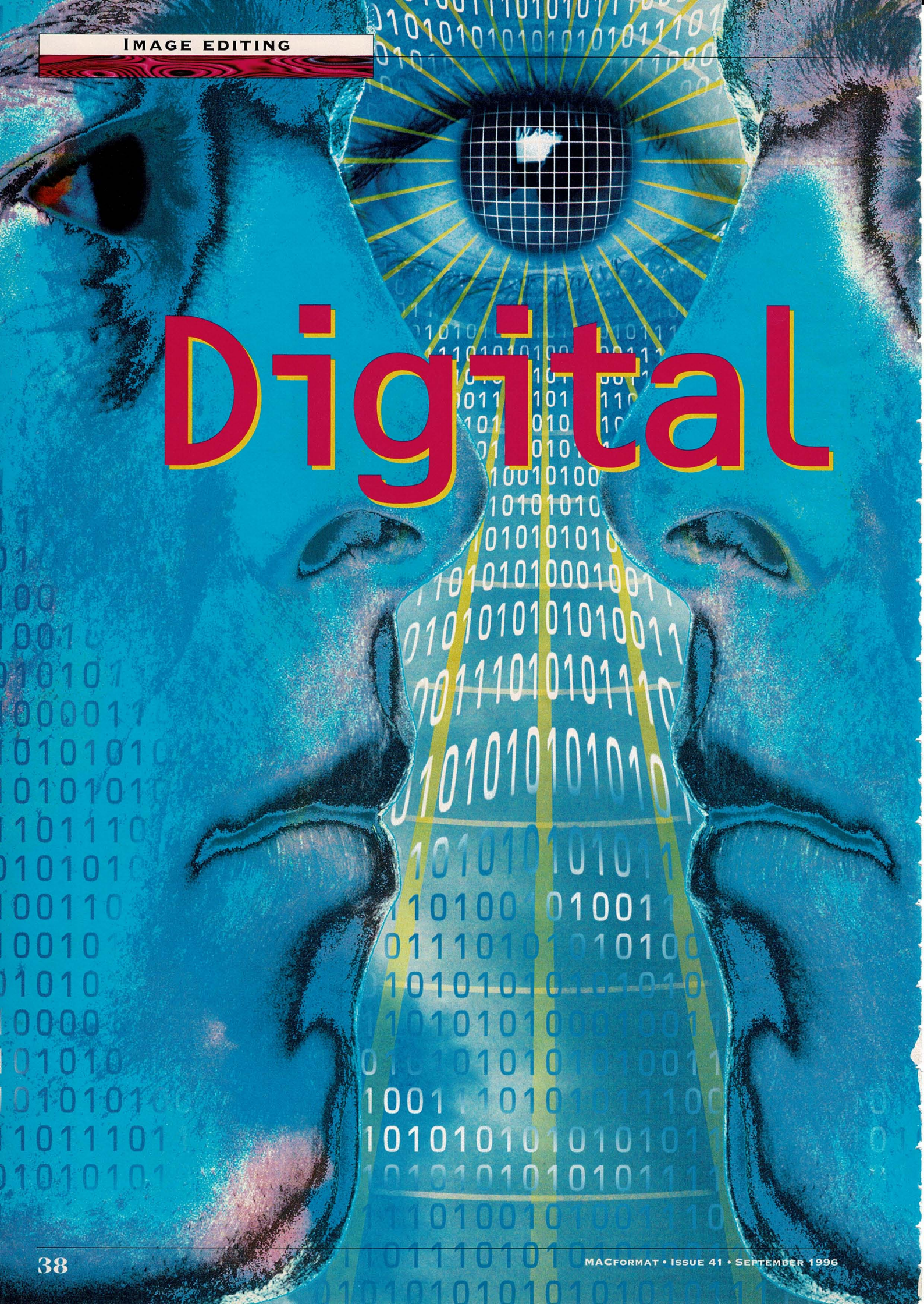
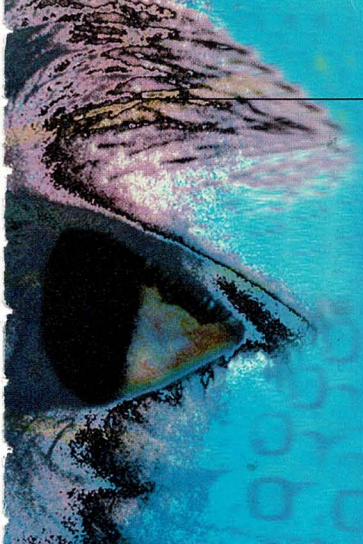


Digital



Dreams

They used to say that the camera doesn't lie, but once you've got your pictures onto your Mac you can do just about anything with them. We reveal the whole truth...

Back in the late '60s and the psychedelic '70s, image manipulation was all the rage. Album covers and posters boasted photographic images with strange 'solarised' effects, eye-catching colour alterations, dazzling montages and breath-taking distortions. It was new and striking – and it was an arcane art, all done painstakingly by hand, using techniques that were sometimes ridiculously complex, almost always hugely time-consuming and often at the very limits of what could be achieved with the photo-processing technology of the day.

Today, even more amazing graphic effects are everywhere you look, not just on album covers but also on billboards, in magazine adverts and – often more subtly – in publications of all sorts. You don't imagine that those cover girls, for example, really all have such flawless skin, clear white eyes, high-gloss lips... do you? Much of the time, their perfection is down to image editing as sophisticated as that behind bolder examples like the surfer riding the crest of a wave on a car instead of a surfboard, or the girl with a 'mini-skirt' that just happens to be a Mini-*car*, or the Smirnoff bottle through which you glimpse the inner truth of the scene behind.

More than any other factor, what has made this explosion of graphic creativity possible has been the widespread availability of computers with powerful graphics capabilities. The Macintosh was the first desktop computer capable of handling graphics at all, and it's still ahead of the pack. It may not quite match the sheer grunt of your Silicon Graphics workstation, of course, but in terms of affordable graphics muscle it can't be beat, and the Mac is still the computer of choice for the graphics professional.

These days, though, everybody uses Macs, from programmers to accountants, teachers to coal miners. The Mac has become all things to all people – but inside, it still has that unbeatable graphics capability. If you have a Mac, no matter what you bought it for or what you use it for, you have a digital darkroom at your fingertips.

Once you've got an image into your Mac, there's almost no limit to what you can do with it, using easy-to-grasp techniques and software starting at under £40. So join us over the next 22 pages as we explain how you can get images into your Mac, what it means when a picture has become a digital image, and then what this enables you to do with it. We'll explore the whole range of software you can use to edit and manipulate digital images, from the mighty *Photoshop* to the amazing – and amazingly affordable – *Kai's Power Goo*. Then we invite the professionals to give you a glimpse of the range of techniques that you too could use to create whole new realities.

And when you're raring to go, find out exactly what hardware you need to digitise all those images in our group test of affordable scanners and digital cameras, starting on page 84.

Step into the digital domain with us, and discover exactly why Doug Pileri, Kodak's director of strategic planning for Europe, declared 'I think digital imaging is the next killer application.'

INSIDE...

What is a digital image and how do you get one anyway? page 40

How to get the best results page 43

Which image editing software should you choose? page 46

Kai's Power Goo reviewed page 52

Professionals explain their techniques pages 42, 44, 54

MACFORMAT readers' gallery page 60

And in this issue's reviews section...
Scanners and digital cameras reviewed page 84

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Going Digital

You can perform miracles with digital images, but just what are they, and how do you get them? Lindsay Bruce and Alex Summersby delve deep into the digits.

Look around, at the images you see every day in adverts, magazines, even works of art. How did they get that fascinating reflection in that metalwork? Did they really travel there to find the setting for that picture? How did they get the moon looking so big in the sky? How *did* they do that?

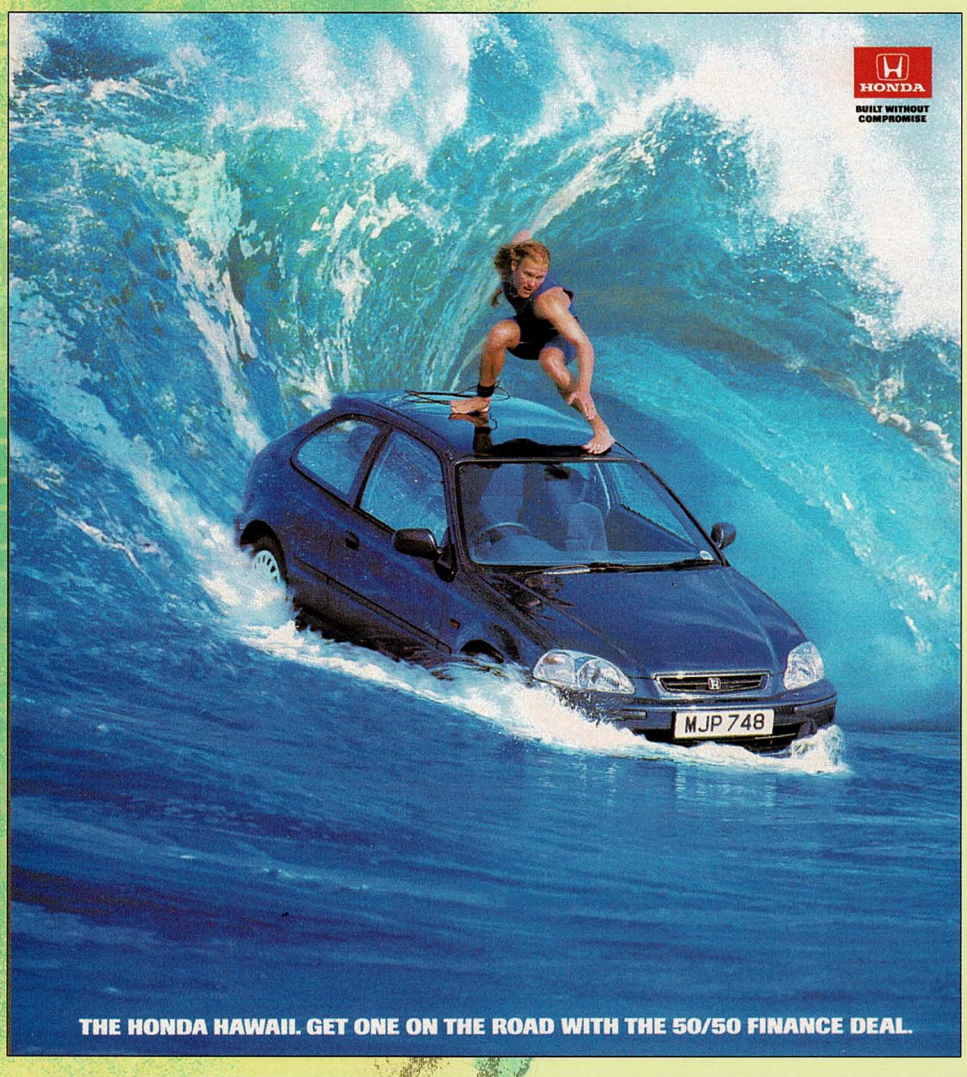
Chances are, they used a Mac.

Before the days of the Mac, photographs could be colour-corrected and manipulated in a darkroom photographically. This was a tedious process that had to be done manually using light-sensitive film, chemicals, masking tape, scissors, and a lot of patience. These days, your Mac can colour-correct even a high-resolution image in a few seconds. But it goes much, *much* further. With your Mac you can distort images, remove objects in photos as if they had never been there, and insert new ones in their place. You could alter your holiday snaps to show that you'd been to Hawaii instead of Bognor Regis, or spent the week discussing foreign policy with President Clinton. You could say you'd been to Mars with Elvis and have the pictures to prove it. And we're not talking about a dodgy cut-and-paste job on a couple of photos here – with today's digitising technology, today's powerful Macs and today's remarkable software, you could achieve effects that just five years ago were strictly within the reach of the pro's only.

You could say you'd been to Mars with Elvis and have the pictures to prove it

But that's not all. If you happen to change your mind, altering what you've done could be as easy as hitting **[command] Z** or just 'painting over' your mistakes. Prefer a slightly paler shade of crimson in that sunset? Try a whole palette till you find the one you like. Changes and corrections are normally simple to make – and undo again – because the original image is held safely in your Mac's memory until *you* decide otherwise. A digital image can be copied, edited, enhanced or manipulated without loss or degradation of the original detail. This just isn't possible with a photograph since you lose a little detail every time you make a copy.

What's more, even if you're not interested in playing with your images, storing them on your Mac – or on another digital medium such as PhotoCD – means they are preserved with no danger of colours fading, paper becoming brittle, or the Sellotape around the edges turning brown... And when you do want them somewhere other than on-screen, having them in digital form means you could output them not just as conventional prints but as personalised postcards, as greeting cards with an individual message, or within a letter – whatever you like.



Memorable images make for more effective ad campaigns, and this ad for Honda is certainly a striking example of clever image manipulation. Just look at those reflections in the paintwork!

What is a digital image?

The crucial factor is that an image in your Mac is a digital image, meaning that just like text you've typed in using your word processor, it is stored in permanent electronic form.

But what does this mean? Well, the easiest way to grasp the concept is to think of the image you see on your monitor. On-screen images are made up of pixels (short for 'picture elements') – the separate little dots that become visible when you over-enlarge a screen image. Images made up in this way are known as 'bitmaps'. If you look at a picture in a magazine or newspaper through a powerful magnifying glass, you'll see that printed images are also made up of little dots. By contrast, photographs aren't – at huge magnifications, they display photographic 'grain', but their gradations of colour or grey tones are continuous, not created by discrete dots. When you convert a photograph or painting to a digital image, usually by scanning it, the original image is translated into a bitmap pattern. The digitised image's fineness of detail is defined by two measures: its reso-

lution and its colour depth.

Resolution is expressed either in pixels or in dots per inch. You can speak of a full-screen image, for example, having a resolution of 640 x 480 pixels, or an image of any size having a resolution of 72dpi. Both of these mean exactly what you think: they're a simple count of how many little dots there are in the image. By contrast, the amount of detail captured in a photograph depends on the camera, the film, and even the processing technique used to develop the pictures, but is theoretically infinite.

In addition to resolution, digital images have a **colour depth**. In theory, a photograph could have an infinite number of distinct colours in it, but in the digital world things aren't that simple. Every pixel in a digital image is a single colour, as you discover if you zoom right in on the image – though at normal magnifications you often perceive the illusion of different colours entirely, or subtle gradations of colour, as a result of the overall optical effect of patterns of coloured pixels close to one another. Colour depth is a measure of the number of colours that each pixel could potentially be.

Just to confuse matters, colour depth is expressed in terms of the amount of memory allocated to defining the colours, rather than a number of colours. '4-bit colour', for example, means there's a total of 16 possible colours for each pixel; 8-bit colour gives you a palette of 256 colours, 16-bit is 65,536 colours, and 24-bit is 16.7 million. Think of it this way: the colour depth figure relates to how many 'slices' your Mac has room to take out of the total colour spectrum. The more memory it has allocated for colours, the greater the number of colours it can offer you – and therefore, ultimately, the more faithful the digital representation of a colour image should be.

What's the problem?

The major drawback is related to the amount of memory and storage space that a digital image takes up. For display on-screen, you could have a 640 x 480 image at 72dpi and a colour depth of 8 bits or 256 colours. This will give an acceptable on-screen display and will only take up a few kilobytes on disk. However, for printing images, you will need a more detailed description than this. Depending on the printer you have and the size at which you want to print the image out, you may have to have a 640 x 480 image at a resolution of 150dpi (or more) and a colour depth of at least 16-bit (32,768 colours). At higher resolutions and colour depths, the file size of the image starts to balloon. For professional output, such as publishing, it's not uncommon to have single images that take up 80Mb of disk space.

This makes manipulating the image slow and difficult on even the most powerful of Macs. For an example, have a flick though the pages of MACFORMAT. The largest single image we can print would cover two A4 pages. That's a total area of 8.3 x 16.6 inches, plus a small margin for 'bleed' (so that the image goes right to the edge of the page when the printer trims it to size), so call it 8.5 x 17 inches. For professional magazine printing, the image has to be full colour – 24-bit (16.7 million colours) – at a resolution of at least 250 dpi (actually 250 dots per inch vertically and 250 dots per inch horizontally, but this is usually just abbreviated to 250 dpi).

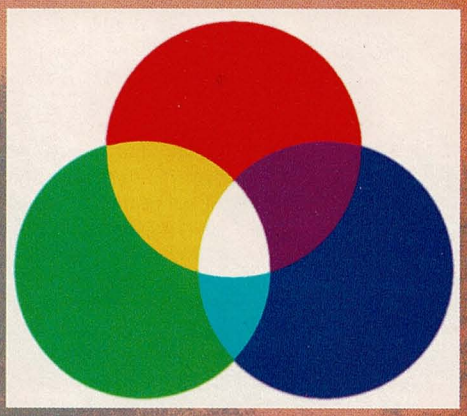
So let's 'do the math'. It's 24 bits for every dot that composes the picture, times 250 dots per inch, times the size in inches, gives 24 x 250 x 250 x 8.5 x 17 = 216,750,000. Then you divide the

Continued on next page

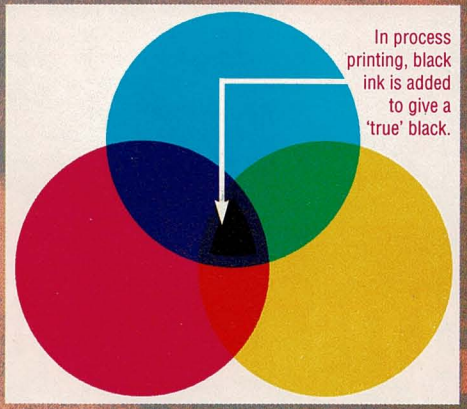
ON-SCREEN VS ON PAPER

All the colours you see on-screen or on a printed page are optical effects created by dots of only a limited number of colours, but there the similarity ends. Every colour you see on-screen (on a monitor or on a television screen, come to that) is generated by mixing the output from just three distinct colour guns – red, green and blue. Light is 'additive', so mixing all three at maximum saturation gives you white.

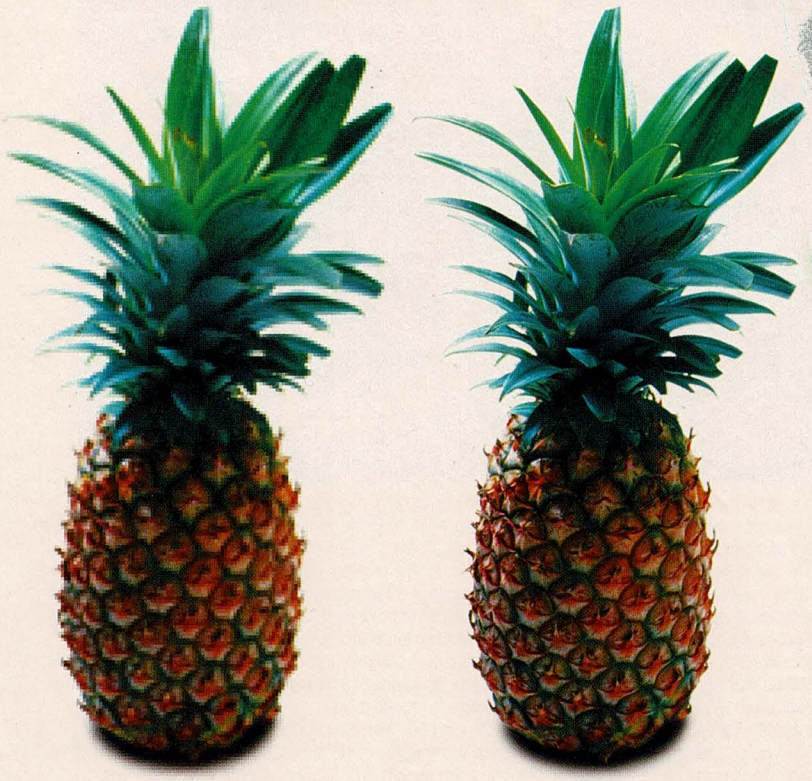
On the other hand, every colour on a printed page is an optical effect created by patterns of dots printed in just four colours of ink – cyan, magenta, yellow and black. But printing ink is opaque, so these are 'subtractive' – mix all colours at maximum and you get black. For more details, see our cover feature on colour printing in MACFORMAT 38. If you missed that issue, turn to page 115 for our back issues service.



Mix red, green and blue light equally and you get white. This is how your monitor makes the colours you see on-screen.



Mix cyan, magenta and yellow, and you get muddy brown instead of white – here you're dealing with inks, not light.



Resolution is the main measure of the level of detail in a digital image. The image on the left is a screenshot at actual size – at a resolution of 72dpi (dots per inch). You can clearly see that it is made up of little dots or pixels. On the right is the same image at 300dpi – much smoother, but the file is much bigger.

BITMAP VS VECTOR

Image editing is invariably about using bitmap graphics. A bitmap file is basically a record of all the elements – usually pixels – composing the image, listing the position and colour of every one, rather like a map (hence the term). Vector-based files are different. Images are recorded as a series of mathematical equations which define each line and curve. This is more suited to Mac-generated 'draw' documents rather than digitised pictures.

total by 8,192 to convert from bits to kilobytes (eight bits in a byte, 1,024 bytes in a kilobyte), and then divide by 1,024 to get the file size in megabytes. So, our double page image takes up about 26Mb on disk.

But wait. This is in RGB colour for display on a monitor. Before we print it, the file has to be converted to CMYK (cyan, magenta, yellow and black or 'key', the four colours used in professional printing). To accommodate the extra base colour, we need to add another eight bits per pixel of information to the file. This means the file size goes up to nearly 35Mb. On top of that, image editing programs such as *Photoshop* use multiple layers and masking channels, so it's not uncommon to have three or four layers and as many as a dozen masking channels. With each layer taking up 24 bits per pixel, and each channel 8 bits per pixel, it's not hard to see why working with digital images can mean dealing with files running to hundreds of megabytes.

That's a lot of disk space, whereas a 35mm photographic transparency is only a little bigger than a postage stamp. So why bother with the Mac?

The simple answer lies in what you can now do with the image. Conventional, non-digital techniques were limited to adjusting the colour and contrast balance of the image, adding photographic effects, cropping it, and pasting it up with other pictures and/or text. In digital format, though, you can do anything you like with it and it'll take you only a matter of minutes instead of hours or days. Most of the simplest image manipulation techniques we use on the Mac today simply weren't possible ten years ago.

The simplest image editing techniques on the Mac today weren't possible ten years ago

Into the digital domain

So how do you get pictures into your Mac? There are several ways. One is to use clip art or clip photos such as the Corel Collection or *Kai's Power Photos*, compilations of royalty-free graphics and pictures that come on floppy disk, or more commonly on CD-ROM. The drawback is that these aren't your own pictures, so if you want something personal or specific, you might not find exactly what you're after.

The second way is to digitise pictures using a scanner. You've got two options here: you could take the pictures along to a scanning bureau and pay a small fee for each scan (between £10 and £60, depending on the size), or if you want a lot of scanning done, you could buy yourself a flatbed scanner that connects to your Mac.

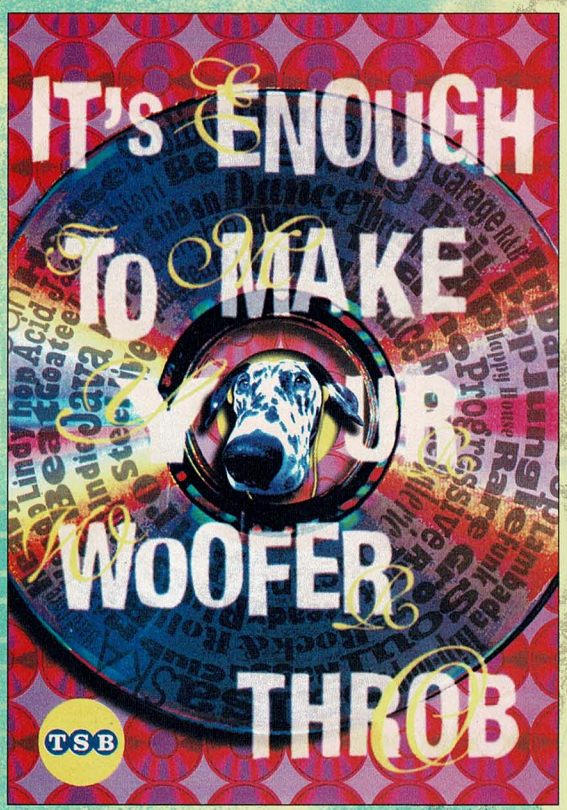
The third way is to take the picture digitally in the first place. A digital camera can take photographs and store them in memory until you can transfer them to computer. This completely eliminates the need for film, processing, and scanning. Digital cameras are becoming more widespread and the cost is dropping constantly. Their only drawback at the moment is that the technology can't match the resolution of a conventional film camera, but improvements are being made and the latest breed of

CHEAP AT THE PRICE

If you think £350 upwards is a lot to pay for a digital camera, consider how much they've come down in price: just a few years ago, one of the first 'still-image digitisers' from JVC cost £5,750. Kodak's was about the same, and Hasselblad's would have set you back a cool £26,500.

WOULD YOU SAY YES TO THIS?

The TSB Bank has just launched a new direct mail campaign aimed at the 'youth market' (16 to 20s). To appeal to this group, the campaign is based on a music theme, and the mailing pack's 12-page newsletter is designed in the style of a music magazine. The pack includes vouchers, letters and fliers, all in matching style. It had to be visually striking, so naturally it was all done on a Mac. Here the team behind the project reveal some of their secrets...



We're giving
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from the kitchen sink
to CDi's, Hi-Fi's but
CD's ghetto blasters
videos shopping sprees
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The pack was designed by IMP London. Art director David Harris explains that, in keeping with the music theme, the design was based on a CD (and also echoes the TSB logo, which is three circles), so although every page is unique they are all designed around a circle.

Mac operator Andy Haughton created the artwork using a PowerMac 9500 with 4Gb hard disk and 82Mb of RAM. This is perhaps slightly more than your average Mac, but Andy explains that the *Photoshop* files he was dealing with were very big because each page had something like 12 to 15 separate layers – the magazine cover and the front of the flier, for example, each ended up around 100Mb. At the final output stage the images were flattened and the files saved as TIFFs, resulting in a slightly more manageable 60Mb a page, but right up to this stage, Andy says, they wanted to retain a high degree of control and be able to make changes. This enabled them to do much more than simply clean up the scanned images, remove dust or scratches, and so on. On one spread, for example, they changed a red border to blue at the last minute.

Surprisingly, the loudspeaker out of which the parrot is emerging was actually photographed full-on, and the perspective effect was added in *Photoshop*. Once again, this was for the sake of retaining maximum control over the final image and making changes more easy – they could alter the angle without needing to re-shoot the picture.

The main cover image was originally a proper colour photograph of a CD, Andy says, 'posterised' in *Photoshop* to get that screen-print effect. 'A lot of it is really just playing around,' he says.

Photoshop is good for that, but this can be a problem in other ways. Take the spread with kit swirling down a plughole. 'There's quite a heavy distortion on the images,' Andy says. 'The problem we had on that spread was that in *Photoshop* when you do distortions like that you don't have much control over it. It's hit and miss. You can get an effect and know how you got it, but when you try it again you get a slightly different result.' When he tried to recreate the image of a blaster bent like a banana, for example, he found it never came out precisely the same.

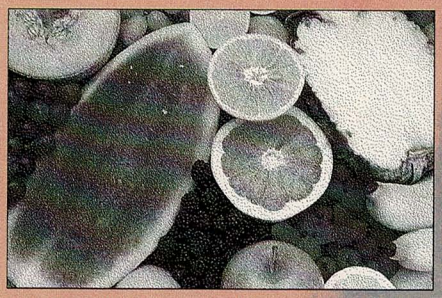
'It would be nice if there were some sort of digital specifications you could put into it,' Andy suggests, 'so you could specify exactly the effect you want and know that that is what you'll get every time.'

The swirly type effects couldn't be done in *Photoshop*,

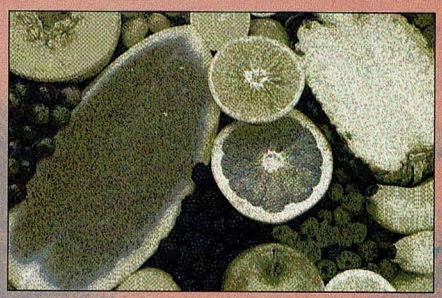
FULL COLOUR OR FAKE COLOUR? COLOUR DEPTH IN DETAIL

The second measure of the quality of a digital image is its colour depth – roughly, how many colours it contains. It's often expressed as the number of *bits* of computer data available to define the colour of each pixel (picture element) in the image.

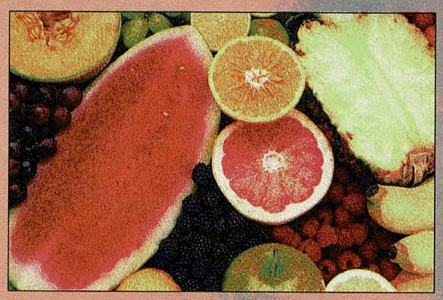
1-bit	Black and white (no greys)
2-bit	4 colours
4-bit	16 colours
8-bit	256 colours
16-bit	32,768
24-bit	16.7 million
32-bit	16.7 million + 256 greyscale alpha channel



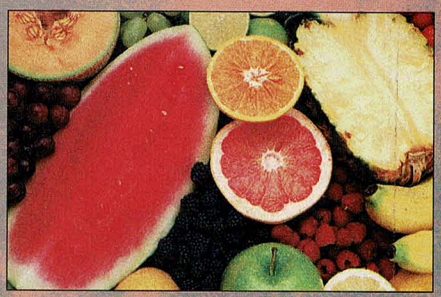
1-bit. This is the picture reduced to pure black and white. Any greys or gradations of colour simply disappear.



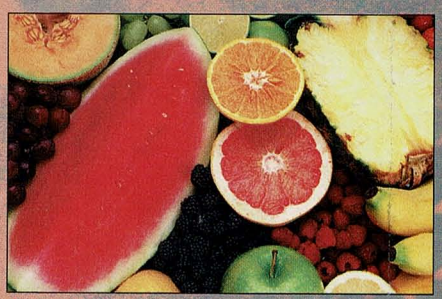
2-bit. In just four colours the picture really doesn't look like it's colour at all, and the shapes are oddly flattened.



4-bit. In 16 colours, the picture still has a washed-out, 'solarised' look, but at least the shapes are better defined.



8-bit. With 256 colours, you can see more detail and the colours are more accurate, but it's still a bit fuzzy.



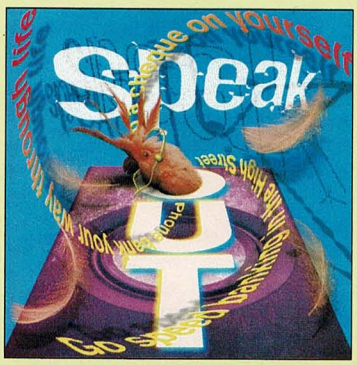
16-bit. Thousands of colours. This is as good as it gets on most Mac monitors and colour desktop printers.

digital cameras produce impressive results – see our group test of affordable flatbed scanners and digital cameras starting on page 84.

A more affordable option may be Kodak PhotoCD. For a fee, you can take your roll of film or negatives along to a High Street photo developer (such as Boots or BonusPrint) and have the images put onto a CD-ROM which can be read by any computer (and some games consoles, such as the 3DO). The advantages are that your pictures are archived at high resolution and can be copied onto your Mac to be manipulated in any way you like. Because they're on CD, they won't take up any of your precious storage space, which gives PhotoCD an edge over scanning. PhotoCD costs £10.98 for 1–15 images, £14.98 for 16–28 images, or £18.98 for 29–39 images. For over 39 images, the charge is £4.99 plus 65p per image. Turnaround is usually within seven days, but express services are available at some outlets, though this costs extra. If you take along existing negatives or prints instead of a complete unprocessed roll of film, the fee is £4.99 (for the CD) plus 65p per image (minimum ten images).

If you don't have a CD-ROM drive on your Mac, then you could try a new service from Compusnaps called Floppy Shots. Send them your pictures and £4.95 (for up to 20 photos) and they'll put them on a floppy disk for you. If you need digital images for publication, however, this may not be the ideal option for you – logic should tell you that to fit 20 pictures on a single floppy they can't be at very high resolution. For more details on this service contact Compusnaps on 0181 983 0403 (voice or fax).

Lastly, if you have an AV Mac or PowerMac, you can connect a video camera to your Mac and grab individual stills from it. Depending on the Mac and camera, you can use either the composite TV input on the back of the Mac or the higher-quality S-Video input. The quality is less than stunning since it's only at screen resolution (72dpi), but it's adequate for multimedia purposes – and if you already have both a camcorder and an AV Mac, it's a very cheap method since all you need is a suitable cable to connect them together. Many camcorders are supplied with all the necessaries, or you should be able to get one at your local TV and hi-fi or electronics shop.



so Andy used *Adobe Illustrator, Dimensions* and *LetraStudio Envelopes*, converting the *Illustrator* files to paths to import them into *Photoshop* at the last stage. (For more on these, see the feature on type effects in MACFORMAT 40).

The other software used was *QuarkXPress*. Andy finally brought all the image files into *XPress* to incorporate *Illustrator* EPSs as well as *Photoshop* TIFFs, and to edit the text. 'Also,' he says, 'colour separation is quite good in *QuarkXPress*,' and they wanted the control it offers over the way things overprint or knock out to make sure that their carefully-contrived colour effects would print out successfully.

How to get the best results

If you're using a scanner, there's a couple of golden rules that should be written in lines of fire across your forehead. Or at least jotted down on a Post-it note next to your scanner. The fundamental thing is that you have to scan enough detail to make your printouts look good, but equally there's no point in scanning detail your printer won't be able to reproduce. Scanning at the highest possible resolution every time won't make your finished graphics look better, they'll just take much longer to process and take up an incredible amount of disk space.

1. Get your resolution right. You should work out roughly what size you will want to print the finished document and then scan the picture appropriately. The rule of thumb is to scan at two and a half times the screen frequency of your printer, multiplied by the percentage of the original size you want to print the image at. For example, to print an image at twice original size (200%) on a 300dpi printer with a screen frequency of 60lpi, you should scan at 60 x 2.5 x 2 = 300dpi. To print the image on the same printer but at half the original size (50%), scan at 60 x 2.5 x 0.5 = 75dpi. Any more than that is wasted effort, output time and disk space.

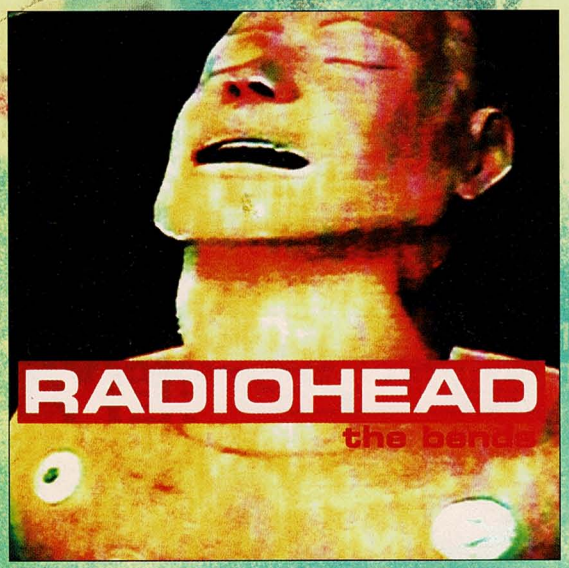
(If you want to know more about screen frequency and the other mys-

PHOTOCD PHACTS

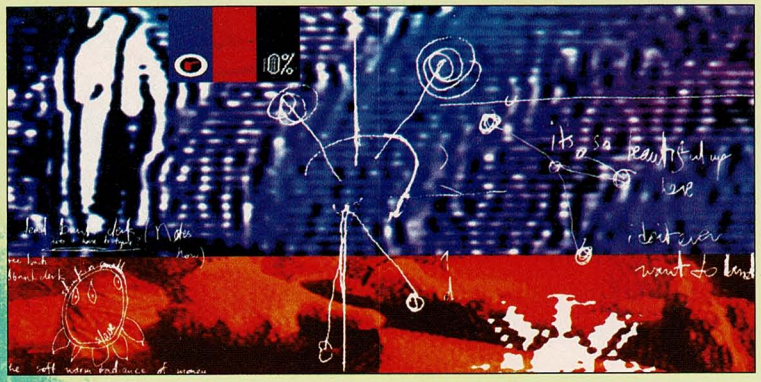
Strictly speaking, there isn't just one PhotoCD format but six, offering resolutions ranging from 170 pixels per inch (for an image about the same size as a 35mm original) up to about 4,400ppi. But this last isn't available from every PhotoCD agent, and it's intended for 'professional' use, so it comes at a price.

Continued on next page

TUNE INTO RADIOHEAD



The artwork for the cover of Radiohead's critically-acclaimed album *The Bends* was created in *Photoshop* by artist Stanley Donwood and Thom Yorke, the band's singer. Stanley Donwood explains how he did it...



Some of the album artwork took a long time, but the front cover itself was done in a matter of hours. That's how it goes. Sometimes you struggle for days or even weeks with artwork that just won't look right. No amount of filters or image adjustment can help you here. Often it's best to bin the lot and start again.

Like much of the artwork on this sleeve, the original image was captured from a videotape – in this case, one we shot that very morning in a hospital procedures training room. If your Mac has an AV card fitted, you can plug a videocam or player straight into it, and play the tape on your monitor, capturing images as crappy 72dpi PICT files. We did this a lot, often after re-filming the tape from a television for added industrial noise. The head itself belongs to a dummy used for training staff in artificial resuscitation, and its expression seemed perfect to accompany the music.

We first blew up the image to a larger size and a higher resolution (300dpi), then used **Image>Brightness/Contrast** to accentuate the colours, getting rid of the muddy quality a lot of video-captured images seem to have. After applying **Filter>Blur more** and **Brightness/Contrast** once more, we had the image we wanted.

Many of the images for the inner foldout artwork were also video-captured, in this case from a selection of tapes Thom shot on tour. The background images were blown up and blurred, and certain sections were selected and emphasised using **Image>Adjust>Variations.** We wanted to empasise the re-filmed quality of the original images as much as possible, so we made extensive use of filters such as **Blur more, KPT Sharpen intensity** and the toolbox **Blur** option.

The background images on the lower section of the foldout were also video-captured and then processed using **Image>Invert** and the **Colorise** option on **Image>Adjust>Hue/Saturation.**

The overlaid images are actually drawings from Thom's sketchbooks, scanned in. After being cleaned up with the eraser and airbrush tools, they were enhanced using the ubiquitous **Brightness/Contrast** option, then inverted to form white-on-black artwork using **Image>Map>Invert.** These images were then copied and pasted onto the completed background images, and using **Edit>Composite Controls** (as we did in the days before *Photoshop 3* and layers) were floated into position before having the black elements removed by **Composite Controls**. Certain other images taken from Japanese weather forecasts were treated in exactly the same way. The coloured stripes, which we used a lot on other releases, were simply copied and pasted onto the finished artwork.

I detest artwork that shouts 'PHOTOSHOP!' at the viewer. I try to use the application as minimally as possible, favouring different filters for different works. We could have used screenprinting, painting, collage... but we used a computer or two.

To me, *Photoshop* is a tool, not an artwork-generating package. *Content* is of prime importance. If you have a good idea, then *Photoshop* is a very useful tool to express that idea visually. Without the idea, however, you're nowhere.

BEST SELLER

Apple's original digital camera, the QuickTake 100, released at between £500 and £600, reportedly sold more than all other models of digital camera put together. Not bad for a bit of kit that came out with an Apple badge on it allegedly because Kodak, who developed the technology and actually built the thing, didn't think it was good enough to put the Kodak name on.

teries of printing, check our cover feature on improving your printouts in MACFORMAT 38. If you missed that issue, turn to page 115 for our back issues service.)

2. Make test scans.
Do a few low-resolution preview scans to get the colour balance and contrast right. You can also use these scans on the page to try out your illustration ideas – because they're lower res, the file sizes will be smaller, so they'll be faster to work with but still fine for positionals.

3. Scan only the area you need.
If you only need part of a picture, there's no point scanning the whole thing in just to crop it all out later. Remember, the bigger the image, the bigger the file size. Choose the area you need to scan in and add just a little for an error margin.

MONEY CAN'T BUY BETTER

If price really is no object, take a look at the Kodak DCS-420 digital camera. It's essentially a Nikon N90 camera body with a box full of electronics added to the back (a bit like a very big motor-drive). It offers a resolution of 1,524 x 1,012 pixels in 24-bit colour and can capture a 'burst' of five images in 2.25 seconds. A snip at just £9,500 or so – but that doesn't include a lens. Presumably you'll have one of those...

Saving your files

There's a host of different graphic file formats to choose from on the Mac. Which one you pick depends on what type of image you are working with, where it is going to be used and what results you want to achieve. It is possible to convert from one format to another – see our continuing series on handling foreign file formats, on page 72 this issue – but it is useful to know the ins and outs of the main formats.

PICT

This is the standard picture file on the Mac and is the most common. The PICT format is unique to the Mac and is supported by every graphics application that runs on the Mac. Nearly all on-screen images are displayed as PICTs and they can be printed on any Mac printer.

TIFF (Tagged Image File Format)

There are two potential problems with PICT files: they are not supported on all computers or output devices; and you can save PICTs only in RGB or black-and-white – CMYK is not supported. TIFF is supported by all platforms and supports CMYK images, so it's ideal for printing. However, not all Mac entry-level graphics packages can handle TIFFs.

EPSF (Encapsulated PostScript Format)

PostScript is a 'page description language' developed by Adobe, based on mathematical vectors instead of bitmaps (TIFF and PICT are both bitmap-based, though PICTs *can* also include vector data – for more details, see last issue's guide to handling images). EPSF files are usually used for images that have a clipping path around them (commonly known as cut-outs).

GIF (Graphics Interchange File)

GIF is used to save files that need to be heavily compressed, such as graphics being posted on the Internet. Unless you intend to distribute your masterpieces in this way, you probably won't use this format.

JPEG (Joint Photographic Experts Group)

This is one of the more common graphics formats, and is used mainly for distributing digitised photographs. JPEG supports better compression algorithms than GIF – that is, you're less likely to lose quality when you compress images – but it's not very common to find people actually working on images in JPEG format.

Continued on page 46

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Digital paintbrushes

There's a dazzling range of Mac software capable of image editing, in one way or another. Alistair Dabbs surveys the field from the mighty *Photoshop* to *Goo*.

When the late Trevor Key shot the images used for New Order's *Substance* album and *True Faith* single covers, he used his own special photographic techniques to produce a distinctive posterised effect. A falling leaf became turquoise on a pink background, a statue of a cherub became blue and pink on a green background. His technique remains largely a secret to this day.

It's ironic, then, that just about anyone can create the same sort of effect starting off with normal photographs and then retouching them with an image editing package. No more secret formulas and special developing processes – today's graphic artist has discovered image editing and turned the world psychedelic with a Mac. In fact, image editing is the Macintosh's showpiece application, which no other affordable desktop computer can even approach in terms of both ease of use and sheer speed.

You'd think this would put image editing packages firmly into the professional bracket. You'd be wrong: whether you're retouching photos in a pre-press environment or fooling around with holiday snaps, there is software out there for you at a price you can afford. And you'll be surprised how sophisticated some of the cheaper applications can be.

PRICE WATCH

We haven't quoted prices in this overview for one very simple reason: street prices vary so widely on this kind of software that giving list prices would be very misleading. Shop around and check ads for the best deals.

LIVE PICTURE VS XRES

The latest versions of these two *Photoshop* challengers were reviewed head-to-head in MACFORMAT 38. If you missed that issue, turn to page 115 for our back issues service.

Professional packages

There's one name here that for many users is synonymous with image manipulation: **Photoshop**. This is the tool that sets the benchmark for all other professional image editing packages to follow. As the name suggests, *Photoshop* is an application designed primarily for re-touching and manipulating photographic images. You could use it as a paint package, but its paint tools are often harsh and inaccurate. When it comes to raw painting, anything more complex than colouring a mono image requires a great deal of artistic skill.

But in the photo re-touching field, *Photoshop* is not just adept and powerful, it's surprisingly fast too, especially on professional-level machines like Quadras and above – and that includes all PowerMacs. It is built around a system of floating palettes, enabling you to customise the tiniest property of each tool in the toolbox and often preview the effect of what you're about to do. *Photoshop* works in layers, any of which can be hidden and re-ordered (and named), and the program comes with a large number of filter effects, such as 'blur', 'sharpen', 'screen' and so on. Most of these filters can be applied either to an entire image or just to selected areas, or in some cases applied stroke-by-stroke with the paintbrush tool. The control over colour, from colour space to channel curves, is absolute – if you want to use it. And on top of all that it has to offer out of the box, it even boasts the ability to accept additional tools and filters in the form of plug-ins – see the box on page 50.

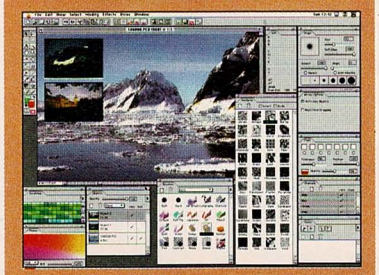
Photoshop is often regarded as the default image editor, but it's not alone at the pro level

Thanks to its historic dominance of the photo-retouching arena, *Photoshop* is often regarded as the default image editor that every graphic artist must have. However, it's certainly not alone at the professional level. **Live Picture 2.5** is one of the main contenders, a package which actually offers paint tools superior to *Photoshop's*. You can, for example, apply a filter to an entire image and then selectively paint areas of the new image onto the original.

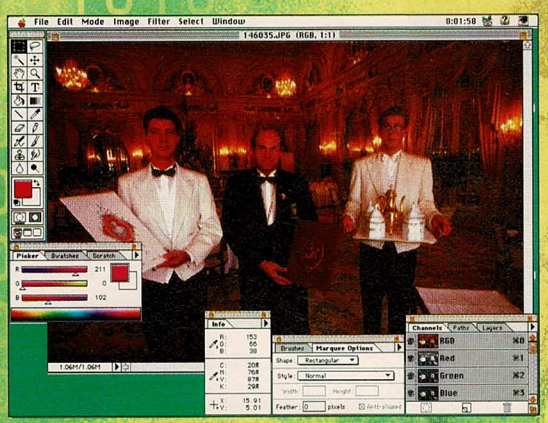
Live Picture uses its own IVUE file format for fast processing, and every time you apply a filter, a new IVUE file is created to store the changes – handy for retracing your steps if things start to go wrong. Theoretically, this ought to make *Live Picture* a bit slow, but in fact the opposite is true: it positively blasts through certain areas of re-touching work, and sends the results to the screen in double-quick time. *Live Picture* stores each command you make in an internal database, and it's this object-oriented approach that gives the program such a speed boost.

Usefully, *Live Picture 2.5* supports *Photoshop*-compatible plug-ins and also

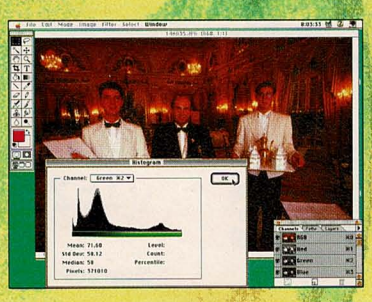
Another heavyweight, the powerful *Live Picture 2.5* is especially well suited to creating composite images or montages like this.



xRes 2.0 looks very *Photoshop*-like, and it boasts similar features. It's great at handling very large images – on a powerful Mac.



Welcome to *Photoshop*. For professional image editing, it's widely – and justifiably – regarded as the industry standard, with its snapping, floating palettes and handy keyboard shortcuts.



Photoshop is also a pre-press tool, and will give you a lot of information about the nature of the colour in an image, even graphically demonstrating the quality of the scan.

Your favourite *Photoshop* dialogue: **Variations** makes stepped colour correction a visual process.

enables you to import vector-based EPS graphics without rasterising them to bitmaps first. You can't actually manipulate these vectors, but it leaves you free to rotate and resize them without requiring them to be re-imported. If sheer speed is what you need, *Live Picture* delivers, but you will need at least 18Mb of RAM as opposed to *Photoshop's* more modest minimum requirement of 8Mb.

Macromedia – long-time rival of Adobe, the company behind *Photoshop* – is another challenger, represented by **xRes 2.0**. Like *Live Picture*, *xRes* has one big advantage over *Photoshop* in the speed with which changes are delivered to the screen as you work. *Photoshop* is no slouch, but every change you make to your current document is processed pixel-by-pixel before you get to see each result; *xRes*, by contrast, shows you a quick but faithful on-screen preview of your changes, and then carries out the final processing only when you're happy.

Otherwise, *xRes* is clearly designed to look and feel similar to *Photoshop*, so easing the learning curve if you're taking advantage of the competitive upgrade deals. While *xRes* can't compete with *Live Picture* in terms of sheer speed (it doesn't provide the same kind of object-oriented command database), its interface is much more user-friendly. It's not an across-the-board challenger, though. Technical users migrating from *Photoshop* won't need to relearn channel operations, but some of *Photoshop's* easy tools (such as the before/after colour changer preview called **Variations**) simply don't have an equivalent in *xRes*.

Less pricey alternatives

The high end of photo-retouching is very well served, but you can obtain similar results in the fundamental areas of image editing with some low-cost, entry-level products. **Color It** is an affordable *Photoshop* pretender which supports *Photoshop* plug-ins. The initial interface fools you into thinking you've just opened a home painting package, but behind the toy palettes lies a powerful image manipulation engine well worth putting to the test.

You'll be surprised how sophisticated some of the cheaper programs can be

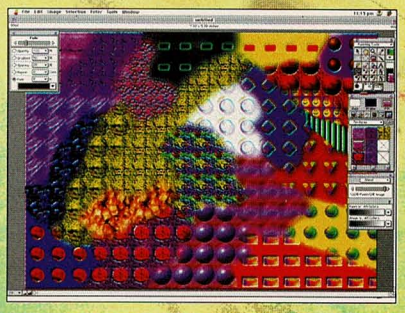
You can, for example, mix composite images, work with floating selections and apply a wide range of filters. *Color It* also supports many popular image formats beyond the basic PICT and TIFF you might expect in an entry-level package, and handles TWAIN-compliant scanning from within the interface. Its one vice is speed: if you've worked with the high-end packages in the past, *Color It* has relatively small system requirements, but on a modest machine it can feel very slow indeed. Sometimes applying a filter can be like wading through syrup; at other times you'll wonder if your Mac has crashed (it hasn't).

Still, with *Photoshop* and the rest costing £500 and more, there's no denying that *Color It* is pretty remarkable for under £50, and for this reason you'll sometimes see it bundled as a package with hardware like scanners or digital cameras.

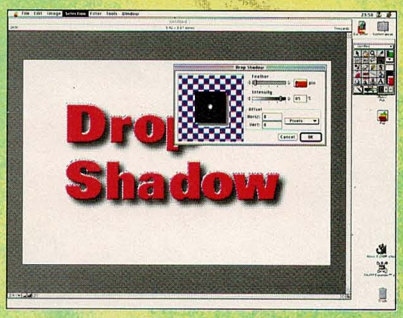
Never one to be elbowed off the bandwagon, Adobe has also targeted the bundle buyer with **Photoshop LE**. This is basically *Photoshop 2.5* with different packaging, and is often given away with inexpensive scanners in order to support the manufacturer's scanning Acquire Plug-in.

As you might expect, this 'lite' edition of *Photoshop* lacks some of the truly exciting features of the full release, notably layers. However, it's not a bundle to ignore: remember that professional designers were using this package at the cutting edge only a

Early versions of *Color It* weren't highly regarded by pros, but it now has plenty of power for compositing.



Color It comes with a large range of wild textures which can be used with almost all the paint tools.



The program has clever touches like a built-in drop shadow creation tool, and you can combine palettes to save screen space.

TRY IT OUT

There's a save-disabled demo of *Photoshop 3.0.5* on this issue's Cover CD. A demo of *Live Picture 2.5* was yours on MACFORMAT 38's CD, and one of *xRes 2.0* on issue 39's disc. To order back issues, see page 115.

Continued on next page

JARGON BUSTERS

■ **Anti-aliasing** – the software interpolation of intermediate coloured pixels between two adjacent areas of different colours. This produces the illusion of smoothing out hard or jagged edges (though often at the cost of some 'blurring' of the image).

■ **Channel** – a component colour of an image according to its colour space: RGB has three channels, CMYK has four. You can also create masks which exist as additional channels.

■ **Cloning** – using part of an image as 'paint' for retouching purposes. Cloning enables you to paint with not just the colour of another area, but also with its texture and properties.

■ **Colour space** – the range of colours that can be reproduced by a particular method. Printing using the Cyan-Magenta-Yellow-Black (CMYK) process can only reproduce a fraction of the spectrum, for example, and therefore occupies a smaller colour space than the Hue-Saturation-Lightness (HSL) method of a 24-bit Mac monitor. Other colour spaces, such as CIELab and Kodak's YCC, try to work in a larger colour space than HSL.

■ **Feathering** – graduated transparency at the edges of a selection. A small amount of feathering gives an anti-aliased effect; a large amount gives an old-fashioned photo vignette effect.

■ **Floater** – a floating object is a currently selected portion of an image, typically imported from another document. As long as it remains selected, it can be edited and moved independently from the rest of the current document.

■ **Frisket** – another popular term for a mask, used extensively in Fractal Design's software.

■ **Layers** – when importing images from several sources into one document, you can place each on its own layer. This means you can continue editing or moving them individually, changing the layering order. Not all image editing packages support layers.

■ **Mask** – this is the digital equivalent of cutting a hole out of a sheet of paper and placing it over the top of your photograph. When you apply paint effects, the masked area is unaffected.

■ **Path** – some image editing packages let you define multiple vector-like paths which can be used to remember selected outlines rather than the selected objects themselves. A path can often be used as a clipping device for cut-outs in certain file formats.

■ **Plug-ins** – a technology introduced by Adobe to enable the addition of effects to *Photoshop's* **Filters** menu. Many mainstream image editing packages now support the Adobe plug-in standard and even more look set to do so in the future.

GraphicConverter is extremely fast and compact in memory, but offers many tools for correcting and navigating large photographic images.

What *GraphicConverter* isn't so hot at is effect filters. The program is not *Photoshop* plug-in compatible, and comes supplied with only a couple of effects.

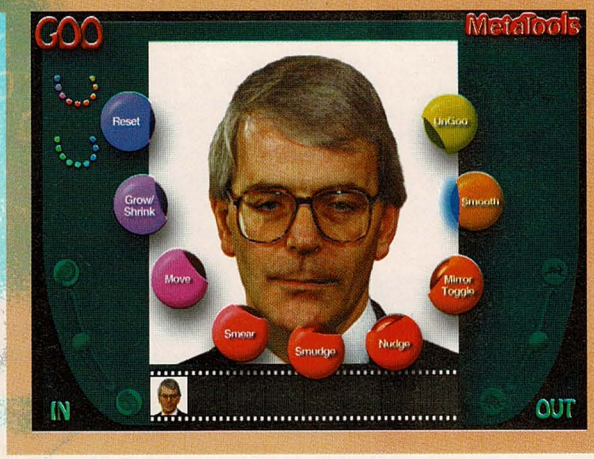
couple of years ago. If you see it as part of a scanner bundle you're interested in, there's no harm in asking if you can opt for the full version 3.0 for a little extra on the price. Also note that you ought to be able to take advantage of Adobe's special upgrade prices, so the bundle might ultimately save you several hundred pounds.

Not a lot of people know this, but *Photoshop* originated from the need for a program to convert one graphic file format to another. This multi-format support is still at the core of today's *Photoshop*, but if your work involves using photographic images sourced from a wide variety of digital formats, you can do one better by opting for the $30 shareware program **GraphicConverter 2.4**. We wouldn't for a moment suggest that *GraphicConverter* is the ultimate in image editing – it isn't – but it's unsurpassed in its support for foreign file formats. 77 of them, to be exact, including NeXT Computer graphics, Silicon Graphics SGIs and raw TV screen grabs.

Otherwise, *GraphicConverter* is a simple package with a very small number of filter effects – unfortunately coarse ones. It's fine for simple actions like resizing, painting and rotating, but it is after all just a program built around that huge number of open/save filters. In fact, your only potential problem is in getting those foreign format files onto your Mac in the first place. (For more on foreign formats, turn to our continuing series on handling graphics files – it's on page 72 this issue.)

GRAPHIC-CONVERTER

GraphicConverter is included on every MACFORMAT Cover CD in the Resources folder. Remember though that it is shareware: if you decide to use it regularly, you must pay the shareware fee. The author's address is in the Read Me file accompanying the program. Go on, show him you care!



As you might have come to expect from Kai Krause, *KPT Power Goo* has a really distinctive interface, and one that reflects its spirit of fun while still giving you easy access to its remarkable power.

Coming home

For all these programs more or less aimed at the professional who needs to work with images, if your needs are more modest it's worth looking out for image editing applications specifically aimed at domestic buyers. If you're after something that will enhance the photographs you have taken but won't put stress on your brain or wallet, there's plenty of low-priced, easy-to-use packages to choose from.

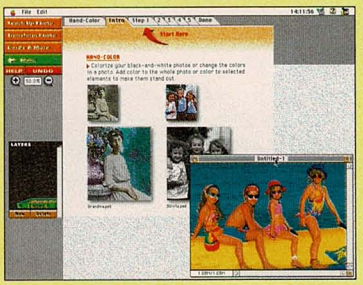
If your needs are more modest it's worth looking out for image editing applications specifically aimed at domestic buyers

First up is Adobe's **PhotoDeluxe**, a deceptively clever piece of software for the home. *PhotoDeluxe* is designed around a 'tabbed' interface – different areas of the program are accessible on different 'index cards' – and all commands or actions are invoked by Wizard-like processes. There are no menus in the program, and it completely hides the rest of the Mac Desktop regardless of the size of the image; you could, therefore, leave *PhotoDeluxe* in the hands of the most clumsy Mac-phobe or a child without having to look over their shoulder every two minutes to check that they have not 'lost' the program as a result of clicking on the Desktop by mistake.

PhotoDeluxe uses the core engine from *Photoshop* itself, supporting not just most of the standard image filters but also nifty features for more ad-

Adobe's *PhotoDeluxe* takes you through photo correction step-by-step. It couldn't be easier. Here, we're making the sea greener.

PhotoDeluxe comes with a large assortment of plug-ins, including some of *Kai's Power Tools*.



PhotoDeluxe even shows you how to turn your modern photos into sepia or old-fashioned watercolour-style images.

Enhancement in a snap – that's the idea behind Apple's *PhotoFlash*.

A nice touch in *PhotoFlash* is being able to zoom in on the effect preview window to see what kind of damage you might be about to inflict on your pictures.

Dabbler is primarily designed to create images that look like paint, pencil or charcoal, but it can also add effects to a photo, as shown here.

vanced users, including layering. In most instances, though, you simply decide what you want to do from a list of tasks – such as 'remove red-eye' – and the program leads you through the entire process. Perhaps best of all, Adobe has taken advantage of the opportunity by packing the CD-ROM with clip photos and building in some Wizards for creating greeting cards and calendars, and has even included some of Kai's more entertaining *Power Tools* for your pleasure.

If you live for pleasure and can survive without the functionality, you should try out **Kai's Power Goo**. This isn't so much an image-correction program as an image-ruining one. If you've ever seen manipulated photos of Prince Charles with an extended nose and ears, then you'll already understand what *Power Goo* does. Take any picture and you can start distorting it in a variety of ways, all using Kai's very personal approach to interface design. For a full review of this weird software, turn to page 52.

Power Goo does not degrade images, and enables you to play around indefinitely

What makes *Power Goo* unique is that distorting images in this way normally has a degradation effect on the pixels – edges go fuzzy and certain key definitions (like the shadow around a nose) start to vanish. *Power Goo* does not degrade images, and enables you to play around indefinitely. The big joke is that this kind of photo manipulation used to take a very long time, was carried out by highly trained graphic artists, and cost a fortune; *Power Goo* enables you to do it yourself in a couple of minutes and costs just £39. It does have limitations – perhaps the greatest is that you can't zoom in to do more precise work – but if you own a scanner, or regularly have your films developed to PhotoCD, or just fancy playing around with clip photos (and there's a generous selection included), it's a hilarious bit of software to own.

On the other hand, if you feel that £39 spent on frivolity doesn't fit in with your household budget (or personal philosophy), you might find you like the functionality of **PhotoFix** from LePixel. There are no Wizards or silly effects, and so the package is marketed as a low-end *Photoshop*. Realistically, *PhotoFix* is just a program for retouching your photos, but it comes with text tools and a good set of enhancement filters, plus a handy Browser utility for viewing your images togther as thumbnails.

One of the big attractions of *PhotoFix* is its low memory requirement (1.5Mb) while it still supports up to 32 levels of Undo. This makes the package particularly appropriate in the home, especially if you can get hold of it at less than the full list price of £99. For work, though, it will seem a little slow.

The alternative is to choose a faster program with fewer features, or at least fewer high-end features. Apple's **PhotoFlash** falls into this bracket. *PhotoFlash* is clearly a domestic product, being completely oriented around the need to correct dodgy snaps. Sure, there are more advanced image editing possibilities with the software, but it really comes into its own when trying to compensate for over- or under-exposure, harsh flashes, motion blurring, red-eye and the like.

PhotoFlash has been available as a stand-alone image editing package, but you're most likely to come across it now as the bundled application supplied with Apple's QuickTake 150 digital camera. (For more on digital cameras and scanners, turn to page 84.) *PhotoFlash 2.0* can be used to control input from a variety of sources, such as scanners, but has custom controls for the QuickTake. In combination with the camera, you download your photos directly into the program for enhancement or manipulation, making it a nice one-stop solution.

A similar approach is taken by PictureWorks' **PhotoEnhancer Plus**, in the sense that it has been licensed by Kodak for inclusion with its DC-40 digital camera. As far as the user is concerned, *PhotoEnhancer* will appear to be less technically well-endowed than *PhotoFlash*, but it has more to offer in terms of automated picture clean-up. *PhotoEnhancer* lists a series of common problems under its **SmartPix** menu, and all you do is apply the most appropriate one. It's good, therefore, for getting rid of duff results as with *PhotoFlash*, plus some extra items such as over-heavy shadows, moiré patterns and the like.

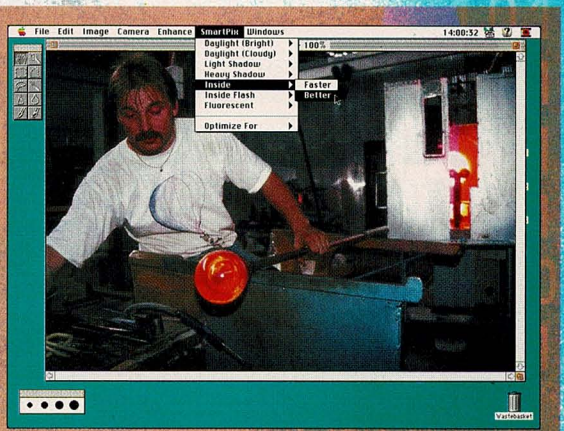
The full version of *PhotoEnhancer Plus* also comes with an entertaining set of filters, each listed by names that describe a desired result. For example, you can darken out someone's face by applying **Disguise,** give someone jagged teeth with **Zig-Zag,** or make it look as if you took your photo during an earthquake with **Quake.** This provides an attractive balance between usefulness and fun.

WIZARD!

The *PhotoDeluxe* Wizards are an example of an idea used in many programs nowadays. Wizards are items of information you can call up whenever you're using the program, offering useful general tips or a step-by-step guide to performing a common task (such as removing the red-eye effect from a photo).

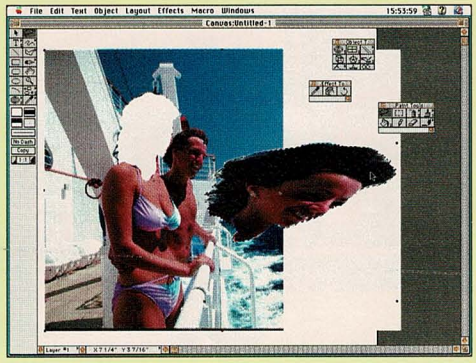
Continued on next page

Akin to *Photoshop's* **Variations** dialogue, *PhotoEnhancer* provides you with an instant approach to colour editing.



If that's still too difficult, *PhotoEnhancer* enables you to select what you think is the problem area with the original photo and auto-correct it.

Deneba's *Canvas* is supposed to be a vector graphics package, but you get a complete bitmap paint toolkit too. And you don't just apply filters to placed photos, you can really edit them. here, start off by 'lassoing' the woman's head...



... And pull it off! Maybe we've been watching too many nasty videos, but at least you can see how the selected area can be distorted and dragged outside the original placed photo. The canvas area will widen automatically if required.

Slap on the paint

There is, however, a lot more to image editing than just photo-retouching. It's equally all about creating new images by manipulating several others in combination. What's more, many image editing packages make possible certain 'natural-media' effects: certain plug-in filters exist to give a charcoal-drawn illusion to a greyscale scanned photograph. However, image editors generally make bad paint packages, and vice versa.

One of the notable exceptions to this rule is Fractal Design's **Painter 4.0** (reviewed in MACFORMAT 35). This is fundamentally a paint package, or more specifically a 'natural-media' paint package which uses fractal technology to digitally impersonate the unique marks made on paper or canvas by real paints, pencils, crayons and so on. It's the choice product for the professional artist moving into Mac-originated work. More significantly, it enables you to use natural media tools to edit scanned images. To this end, *Painter* not only opens standard TIFFs and PICTs, it even supports QuickTime and *Photoshop's* proprietary file format.

You can choose from a range of preset filters, including some amusing Van Gogh and Pointillist tools, and apply them across an entire image or paint them on using the appropriate brush or pen. One of *Painter's* most effective filters is its Mosaic feature: take any photo and turn it into a very realistic ceramic mosaic, complete with 'off' colour tiles, irregular placement and the all-important cement. Although *Painter* is targeted at artists, many people use it purely for converting photo images into what appear to be hand-drawn ones.

What *Painter* can't do is run unobtrusively. If you hope to use the program just for quick photo conversions, you're likely to be disappointed, not least by its 12Mb minimum RAM requirement. It also takes a bit of getting used to, despite having one of the most attractive interfaces you'll ever see this side of a real drawing table.

Digitally impersonate the unique marks made on paper or canvas by real paints

If all you want is a smaller version of *Painter*, you should try Fractal Design's **Dabbler**. Originally marketed as an easy-peasy paint package for the kids, *Dabbler 2.0* is actually used and respected by a great many image editing professionals who just want the basics but want them accessible.

Dabbler doesn't offer you the same number of canvas textures and media types as *Painter*, or as much control over their customisation. But you can still import photos and work on them with natural media tools, this time within a much easier and even more attractive interface. In the home, *Dabbler* is popular with people who want to turn a family photo into what looks like a crayon drawing, then put it on the front of a birthday card, family album or whatever.

Given enough money to spend on software, it possible to imagine yourself with a powerful suite of integrated graphics packages, covering image editing and painting with vector drawing. It's for this reason that vector packages like *Adobe Illustrator* and *Macromedia FreeHand* offer extensive support for bitmap images.

Deneba's **Canvas 3.5** tries to go one step further by putting image editing features side-by-side with the vector features in a single program. In other words, *Canvas* is a hybrid.

For example, all vector packages enable you to import bitmap images,

TOUCH IT UP

Image editing software is useful not only for compositing and other creative purposes; it is also – indeed, primarily – designed for retouching scanned photographs and the like, in order to remove the signs of dust or scratches on the originals, correct colour shifts due to the scanning process, or generally improve the contrast or crispness of the scan. But hey, ripping a babe's head off is more fun...

PLUG-IN FILTERS

Apart from the software's sheer power, the single most important reason for the widespread popularity of *Adobe Photoshop* is its support for plug-in filters. By allowing third parties to program their hooks deep into the software, Adobe made it possible for everyone to enhance *Photoshop* instantly without waiting for a new release. Instead, you just buy some new plug-ins, copy them into *Photoshop's* plug-ins folder, and they appear under *Photoshop's* **Filters** menu giving you loads more image manipulation options. Easy.

This is the way Adobe's *Gallery Effects* work: they simply add extra filters. However, some plug-ins are more like mini-programs within the main program. Most famous of these is *Kai's Power Tools* from MetaTools, now up to version 3.0. For around £150, you get a stack of special filters for applying gradients, textures and spherical effects, all built around a wild interface that encourages lateral think-

Relive *Top Of The Pops* with Andromeda's multiple image filter, part of its range of *Photoshop* plug-ins.

KPT Convolver is the kind of very silly *Photoshop* plug-in that sends graphic artists psychedelic. And we love it...

The *Paint Alchemy* plug-in gives you a selection of natural media paint effects, including realistic brushes.

FOR MORE INFORMATION

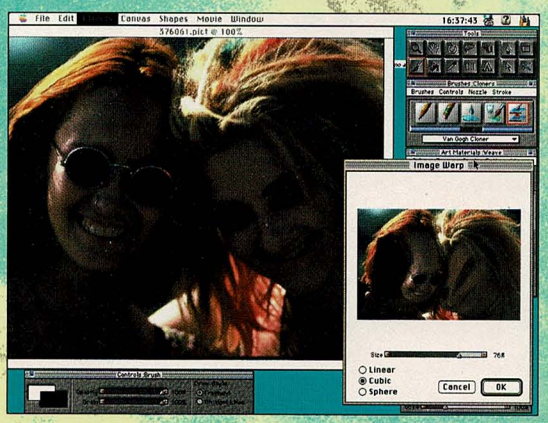
Adobe PhotoDeluxe – £89.95. Adobe 0181 606 4000.
Adobe Photoshop 3.05 – £628. Adobe 0181 606 4000.
Andromeda Filters – starting at £79. MacWarehouse 0800 181332
Apple PhotoFlash 2.0 – £135. Apple 0800 127753.
ColorIt! 3.0.4 – £49.95. Future Publishing 01225 822511.
Deneba artWORKS 1.01 – $49.95. Deneba (in the US) 001 305 596 5644, **www.deneba.com**.
Deneba Canvas 3.5 – £199. Principal 01706 832000
Deneba UltraPaint Home Edition 1.05. Deneba (in the US) 001 305 596 5644, **www.deneba.com**
Fractal Design Dabbler 2.0 – £49.95. Computers Unlimited 0181 200 8282.
Fractal Design Painter 4.0 – £399. Computers Unlimited 0181 200 8282.
GraphicConverter 2.4 – $30 shareware. On the MACFORMAT Cover CD.
Kai's Power Goo – £39. Principal 01706 832000.
Kai's Power Tools 3.0 – £149. Principal 01706 832000.
KPT Convolver – £152. Principal 01706 832000.
LePixel PhotoFix 3.0 – £99. Linographic 01253 376103.
Live Picture 2.5 – $1,050. IMC 01344 872800.
Macromedia xRes 2.0 – £549. Macromedia 01344 761111.
PictureWorks PhotoEnhancer Plus – $129. PictureWorks (in the US) 001 510 855 2001, **www.pixworks.com**
Xaos Paint Alchemy 2.0 – $99. Xaos Tools (in the US) 001 415 487 7000, **www.xaostools.com**

and some even enable you to fire up *Photoshop*-compatible plug-ins, but *Canvas* enables you to edit 24-bit bitmap images directly, up to a resolution of 2,540dpi. These images can be stretched and skewed, rotated and flipped, and a set of bitmap paint tools enables you to carry out simple retouching tasks.

Naturally, *Canvas* is far from being a full image editing application, since you don't have control over channels and levels, nor do you have any special cut-out tools beyond the basic 'crop', but *Canvas* goes way beyond any other hybrid package in this respect. The imminent *Canvas 5.0* takes the next logical step by supporting plug-ins, which ought to make the program a serious contender in the budget arena – a sophisticated package that covers both vector and bitmap art, supports plug-in filters, and yet only costs around £200. Not something many people can scoff at for long.

Canvas is only Deneba's flagship product; the company has also developed a couple of entry-level packages specifically for home use, but you may need to obtain these directly from the US. Deneba **artWORKS** is rather like a cut-down version of *Canvas*, being an integrated drawing and painting package but with an interface redesigned to look more fun. Even so, *artWORKS* still supports *Photoshop*-compatible plug-ins, so there's considerable image editing mileage to be obtained from this apparently humble software.

Painter is rather good for giving digitised photos a tactile feel, such as this surface canvas effect.



Quite apart from the art and mosaic effects you can draw onto cloned photos, *Painter* gives you basic distortion tools for amusing results.

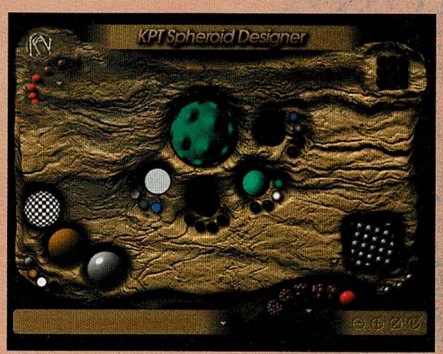
Deneba's other entry-level product is **UltraPaint HE** (Home Edition). It's starting to look a bit long in the tooth now, offering basic paint tools and support for a very limited number of file formats. However, you can still use it to open scanned images and work on them, as long as the scans are created outside the program and saved as PICT 1 or 2. Though it's not specifically designed for photo enhancement like many other packages, it is more than adequate for having a bit of fun with your photo collection at home.

Not that 'fun' should be frowned upon, least of all in this age of digital imagery. The public at large has grown accustomed to – or at least become aware of – falsified and retouched photos, but this actually increases the demand for more. It also increases the demand for good-quality photographs and not just trickery. With an image editor, you can go a long way to creating both – even at home. Get designing those album covers! **MF**

ing. The same interface treatment is given to MetaTools' *KPT Convolver*, which offers you a unique way of applying standard filters including effects like blur, sharpen, unsharp masking and so on.

The KPT packages are just the tip of the iceberg, though, with a surprisingly large number of other software houses building plug-ins. One of the first in on the act was Xaos Tools with *Paint Alchemy*, now at version 2.0, which enables you to give photos bizarre texture effects – make a statue look furry or running water look like marble. Another big name in plug-ins is Andromeda Software, which now offers a complete range of photography, 3D and screen filters all for the bargain price of under £100 each.

While all the mainstream plug-ins are sold in the UK through established vendors, some are only available via a US sales office, so be prepared to undertake some transatlantic investigations if you're searching for a very particular filter effect. If you've got a modem and Internet connection, though, this is going to be easy, since all clued-up Mac developers are on the Web. For example, you'll find heaps of plug-in demos available for free download at BoxTop Software's site at **www.aris.com/boxtop/plugpage**. For a complete overview of plug-ins, dig out your copy of MACFORMAT 27 – it even included a collection of over 100 sample plug-ins for you to try out, on the Cover CD.



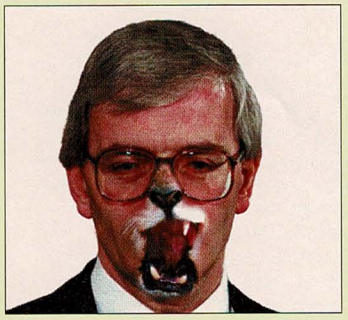
Kai's Power Tools 3 boasts as unconventional an interface as other Kai Krause software – plus some wild new tools.

The Texture Explorer makes it easy to find the right look, and textures are now 'infinite', rather than repeating.

Adobe's plug-in technology isn't just a privilege of the professional, either: it's being built into many other image editing packages too, including *Color It*, the forthcoming *Canvas 5.0*, and Adobe's own 'home' package *PhotoDeluxe*. All of these programs will support any third-party *Photoshop*-compatible plug-ins, giving you the potential of very impressive power – and precisely the effects you need – even in what you might consider to be relatively humble software.

Kai's Power Goo

You've seen what the rest can do – now discover the newest, and wildest, image editing package around, from the man who gave the world *Kai's Power Tools*.



The Fusion module of *Goo* enables you to paint parts of one image over another – a satirist's dream. Or a copyright minefield.

Effects are instant and continuous, so you can watch your favourite PM doing the twist.

AMAZON

You may have heard about a mysterious product from Kai called Amazon. It now seems that it's not so much a product, but the technology that lies behind *Goo*, and probably many more products to come.

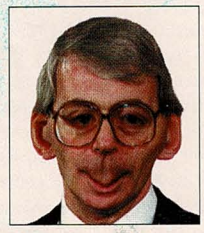
Long long ago, when PowerMacs were still young, a man by the name of Kai Krause produced a simple demo to show off the machine's power. In it, you had a circular pattern which you could stretch and bend and distort by dragging the mouse across it. This was fairly impressive but not revolutionary. The magic came when you let go of the mouse. No matter how much you had distorted the picture, like a bendy rubber toy, it warped back into the original pattern.

Select different effects by clicking on the floating Smarties, from bulge or twirl to stretch or squeeze.

A couple of years later, this demo has been transformed into a full blown image manipulation program called *Kai's Power Goo*. This time you can load in any picture you like (a selection is provided on the CD with it), then perform a whole range of manipulations. You can squeeze, smudge, exude, bend, morph, smear, warp, twirl and generally abuse the picture as you like.

GOO-VY

Sometimes when you rotate or distort your picture, parts of it 'come into view' that don't in fact exist, given that a bitmap image has a definite border. Yet *Goo* can even extrapolate from the pixels at the picture's boundaries and create those 'hidden' parts *as needed*. 'Brilliant' is an understatement.



Effects that take Steve Caplin ages in *Photoshop*, you can get in seconds...

It's rather similar to the *Photoshop* plug-in *Squizz*, reviewed in MACFORMAT 27. However, that was designed for detailed work on high-resolution images, whereas *Goo* has great difficulty in handling very large graphics. It also lacks any capacity to zoom in for more precise work on a magnified image, and you're stuck with the fairly broad-brush tools. But finely detailed effects are not what it's about. Instead, it's designed for fun, particularly for home users – although multimedia designers will be interested in its movie capabilities: as you apply the special effects to your image, you can easily record the changes and make them into a smooth QuickTime animation. (The quality of playback, however, depends very much on your Mac. The result is hugely better if you save them as 'Goovies' in *Goo's* own format and play them back through *Goo* itself.)

Tremendous fun for just £39. But that's not all. *Goo* has a second module called *Fusion*, which mimics *Photoshop's* rubber stamp tool. Here you take two images, 'pick up' part of one and then 'paint' it over the top of the other. So, for example, you might have two photos of landscapes, one with a cloudy sky and one with a clear sky. You can paint the clouds from one photo onto the sky of the other to alter the scene.

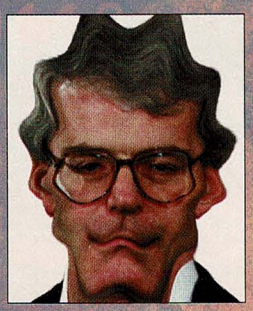
It's not as accurate or as detailed as *Photoshop's* rubber stamp, but it's perfect for creating libellous pictures of the boss. *Goo* takes one of the most fun parts of *Photoshop*, makes it very easy to use, and then offers it at a fraction of the price.

However, despite constant references to the industry standard paint package, *Goo* is different in a very fundamental way. It's not actually a bitmap package. Although you start off and end with a bitmap graphic, the manipulations are not bitmap – amazingly, they are converted into something else *on the fly*.

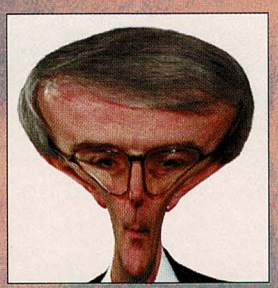
The graphical engine behind this is a strongly guarded secret of MetaTools. But it means that no matter how much you manipulate the image, you can rub a brush across it to undo your changes in particular areas... with no loss of quality. This isn't the first application to feature such technology. *Live Picture* and *xRes* (MACFORMAT 38) both boast something similar, but they cost 20 times as much! And they don't have interfaces anywhere near as wild as *Goo's* floating 'Smarties'...

If you're a professional graphic artist with *Photoshop* and *Squizz*, there's little incentive to buy *Goo* – unless of course you fancy creating some 'Goovies'. But whoever you are, if you want a graphics program which is as much fun as any game, get your hands on *Goo*. At less than the price of most *Photoshop* plug-ins, it's exceptional value

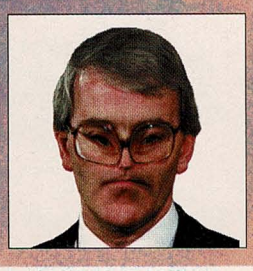
DEREK SMITH



One set of icons gives you effects you brush on where you want, the second affect the whole image.



As well as applying any degree of 'bulge' to the whole image, you can 'grow' just a part of it to any extent.



Goo doesn't claim to be a precision tool, but a delicate hand can create quite fine (if not *subtle*) effects.

MACFORMAT Classic

KAI'S POWER GOO

Price: £39. **Out:** now.
Requires: Quadra or better (PowerMac recommended), 5.5Mb of free RAM (8.5Mb recommended), System 7.5 or later, monitor capable of millions of colours, 20Mb of hard disk space, CD-ROM drive.
Contact: MetaTools on 01734 880244.

FEATURES 86%
All you need for playing around, though it's not quite a *Photoshop*.

EASE OF USE 90%
Easy once you get the hang of it

DOCUMENTATION 74%
An A2-sized poster – fine if you have the wall space. Fun but impractical.

VALUE FOR MONEY 94%
At this price, a giveaway.

MACFORMAT RATING 90%

EDGE

The Future of Interactive Entertainment

Also inside issue thirty-five:

Digital Dexterity: the evolution of videogame controllers

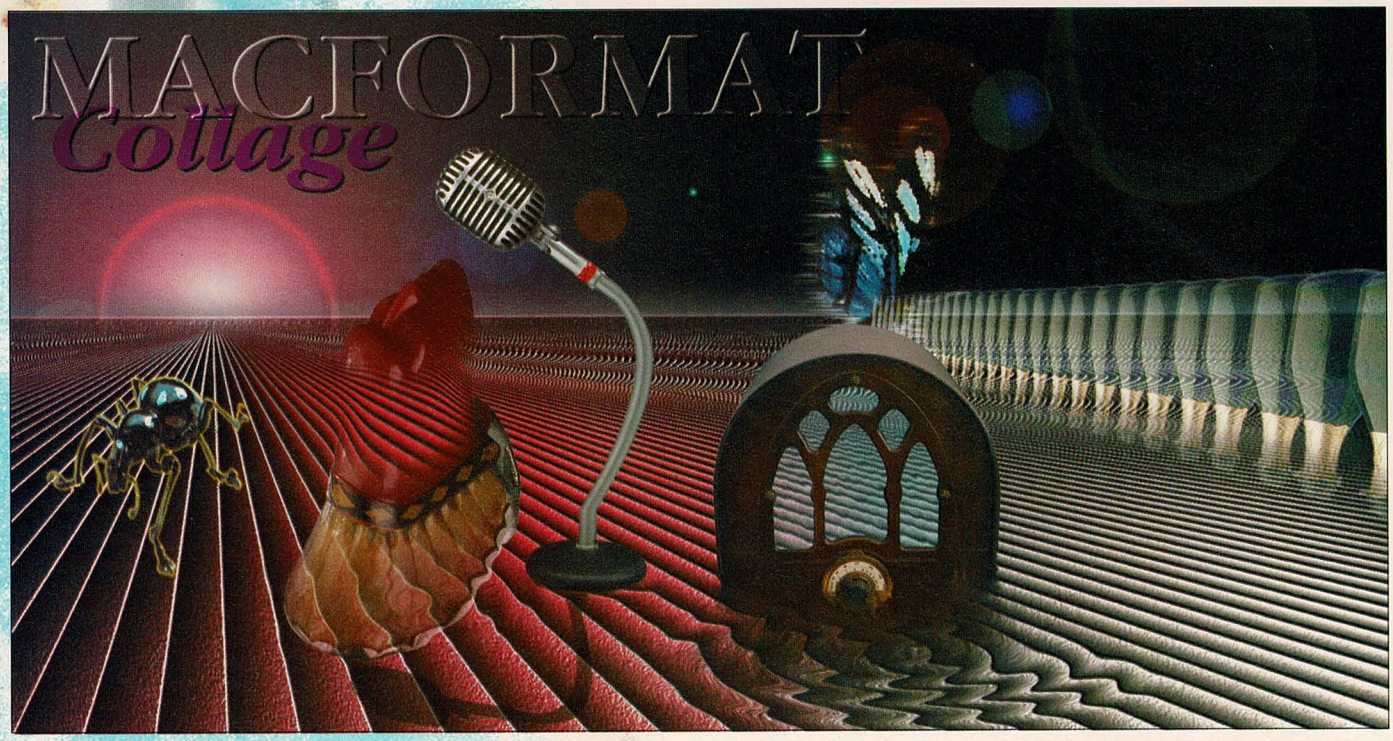
Micro Engineering: CodeMasters under the gaming spotlight

Millennium: Creating Cyberlife

Nintendo 64: The Verdict

Issue **35** on sale **now**

How to reshape reality



You've seen the effects and the software that produces them. But how is it done? Graphics professional Marc Woods explains the techniques of image retouching.

SHORT OF MEMORY?

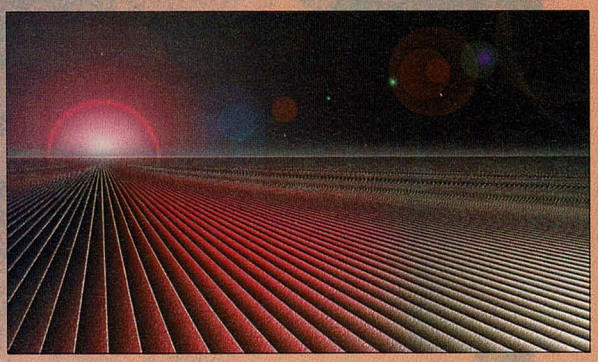
If your system isn't up to our samples' file sizes, try opening them all one at a time and halving them in size. Then in most cases simply halve the values given for the effects described.

Back in the Stalinist days of the Soviet Empire, when rewriting history was a way of life (not to mention death), industrious apparatchiks painstakingly airbrushed the disgraced Trotsky out of historic photographs. Because people had naïvely accepted that the camera never lied, it was a shocking development – George Orwell made much of it in *Nineteen Eighty-four* with the Ministry of Truth actually 'erasing' individuals who had been declared 'un-persons'.

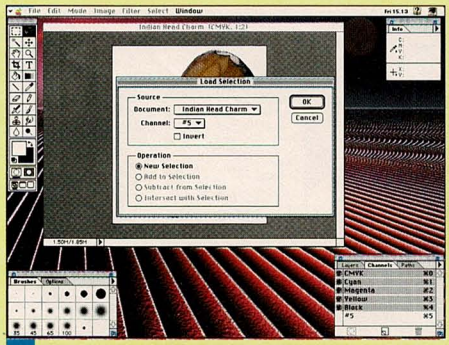
Today, we're used to the concept of photo retouching. We're more sceptical about the truth of pictures. And where surreal photo-montages were once subversive and eye-opening, today we see them everywhere and appreciate them as clever rather than threatening. In fact, with today's Macs and the ready availability of digital images, anyone can create a new reality. All you need to know is how it's done.

This 'masterclass' is based on the large montage above, which was created using *Adobe Photoshop 3.0.5* and images from *KPT Power Photos* volume two. It is designed to demonstrate some of the more interesting effects commonly used in image manipulation software – try them for yourself with the demo of *Photoshop* and the sample images included on this issue's Cover CD. (To give you a start, the images have been saved out in native *Photoshop* format with channels where necessary. Backgrounds and unnecessary parts of the images have been ready-removed for you.) Most of these effects are perfectly possible in more modest packages too, including *Color It!* and many of the paint programs mentioned in our software overview starting on page 46. Marc Woods explains how he does it...

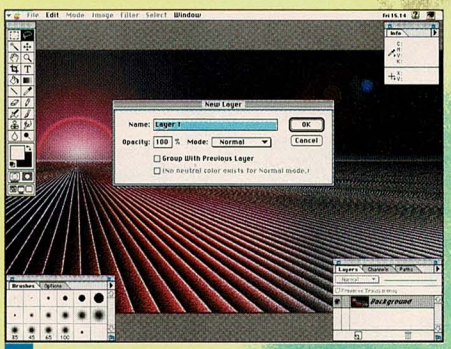
For a great montage, the best starting point is top-quality original images. These are from one of the *KPT Power Photos* collections – for details, call MetaTools on 01734 880244. Other good clip photo sources include the vast Corel collection – call Channel Marketmakers, 01703 814142.



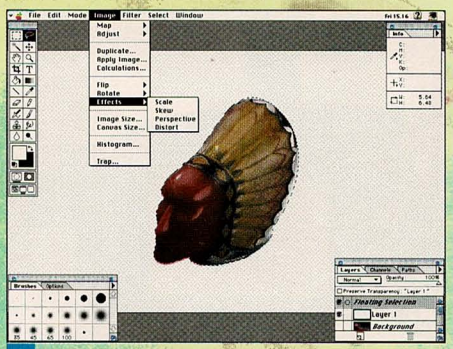
1. SEMI-TRANSPARENT OBJECTS



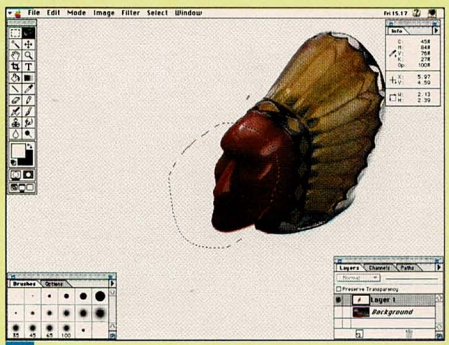
1 Let's begin with the Indian head charm. Open both the background image and the charm. In the charm's window, select the channel called 5, then go to the **Edit** menu and select **Copy**. Now you can close the charm's window.



2 Next we want to create a new layer in the background image for the charm to occupy. To do this, click on the arrow to the right in the **Layers** palette (to the bottom right) and select **New Layer**. The standard settings as shown will be fine. That done, select the new layer by clicking on its icon and name in the same palette. Now use **Paste** in the **Edit** menu to paste the charm into the checked area you will now see.

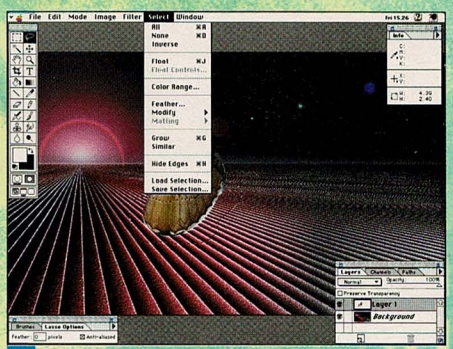


3 The charm is far too large, so we will need to scale it using the **Scale** tool – you'll find it by going to the **Image** menu, then **Effect**, then **Scale** menu (we'll abbreviate that to **Image>Effect>Scale**). Select it and a bounding box will appear. Hold down the **[shift]** key to preserve the image's proportions and scale the head down to about 50% or whatever feels like a suitable size – the Info window (in the top right-hand corner here) gives you a whole heap of useful figures, including scaling value, as you resize objects.



4 Next, using the **Lasso** tool, draw a rough shape around part of the head. To soften the edge, feather the selection using **Select>Feather** to about 25 pixels. Now move the selection in pro with its original position about an inch away from where it was.

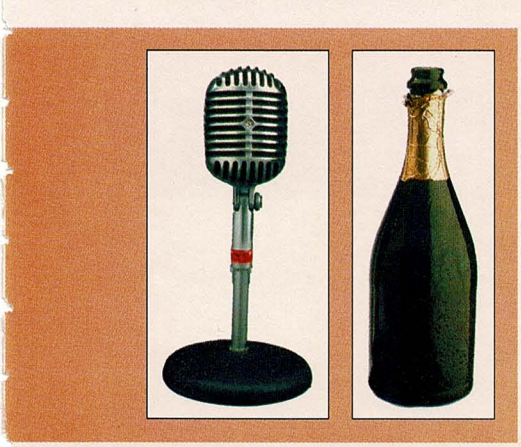
5 Using the **Smudge** set to about 50% effect (bottom left), gradually clean up any ugly or nonsensical parts resulting from the move. Any part of the screen still covered by the grey and white checked pattern is transparent in relation to the background layer. Using either the **Smudge** tool or the **Eraser** will put the checked pattern back wherever it removes part of the charm. Switch to the **Marquee** tool, and make a selection around the charm encompassing the whole object. Next use the **Image>Rotate>Free** tool to move it round until the charm faces straight up, then use **Image>Flip>Horizontal** to flip the charm horizontally.



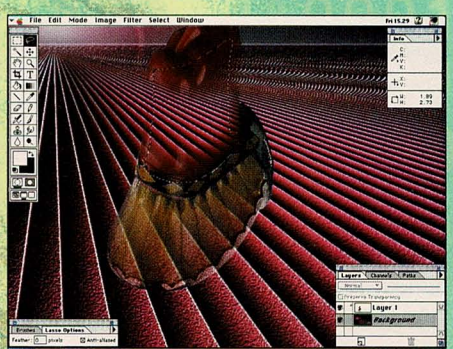
6 In the **Layers** palette you should see small icons of the layers and their names. Click in the 'eye' area by 'Background' but don't select it. Draw a rough shape around the feathers of the charm and (appropriately enough) **feather** them to about 35. Use **Edit>Fill** set to 50% clear (look in the sub-menus) and hit **OK**. This should make an area of the feathers semi transparent.

This image was produced on a Power-Mac 6100/80AV running System 7.5.3r2, 40Mb of RAM and a 400Mb 'scratch disk' – space allocated for *Photoshop* to save temporary files to.

You may notice, looking at the images on the Cover CD, that all the collage parts are far larger than they need to be. This is simply because it is easier to work on a large image and then scale it down rather than vice versa – and *Photoshop* is particularly good at down-sampling (reducing image size) without losing any of the quality of the original high-res image, especially for print purposes.



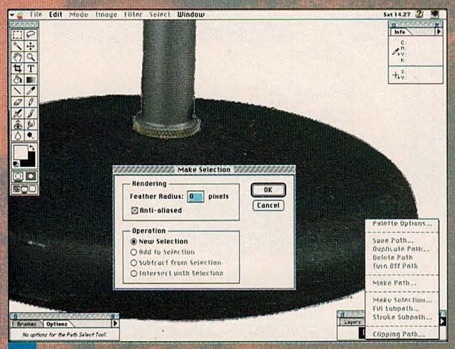
7 Draw a marquee around the charm again and move it to an appropriate position. When you are sure it's in the right place, you can reduce the file size dramatically by combining the charm with the background layer. To do this, select **Flatten image** from the **Layers** options. (Don't remove the layer, though, until you are sure about its position – you will not be able to move the charm once the operation is done.) Draw a lasso shape inside the clear area of the elongated head. **Feather** to about 15 and select **Filters>Distort>Spherize**. In the dialogue simply hit **OK** and look at the result – it should look like the head in coloured glass diffracting the background.



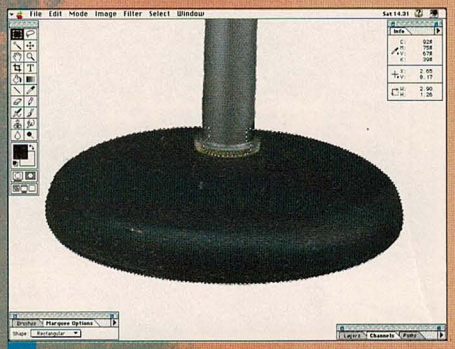
8 Make yet another selection with the lasso around the base of the feathers. This time feather about 25 pixels and use **Filters>Distort>Twirl** without form centre about 25 for the amount and 6 for the ripples. This effect should make both the feathers and ground look like diffracting water – be careful to ensure that the selection is longer than it is deep, so that the effect is at the correct angle relative to the angle of the ground into the distance.

Continued on next page

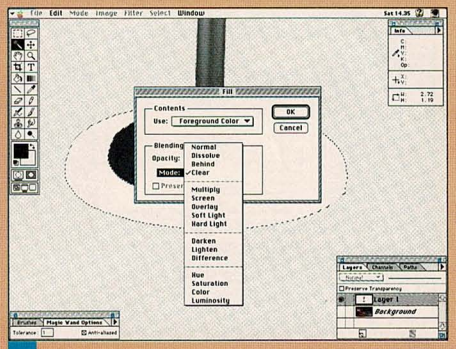
2. BEND AND STRETCH



1 Save your main image and open the 'Microphone w/stand' image. This time, before we paste it into the main image, there is some work to be done. Using the **Path** dialogue box, select the **Draw** tool and draw a path around the base of the stand, although not any part of the stand itself. Then make a selection from the path by using the path options arrow to select **Make selection**. Leave the feather at 0 and make sure anti-alias is on. Save the selection as channel 5 and then scale it to about 75%. Use **Edit>Cut** to remove the resized base and load selection 5 from the **Select** menu.



2 Use **Edit>Paste behind** to get the reduced base to paste behind the rest of the stand. Now deselect and load channel 5 (this will be too large at the bottom but don't worry). Copy and paste it into a new layer in the background image. Note the familiar checked background (when the eye is not visible on the background layer in the **Layers** palette), and also note the white around the outside of the reduced base.



3 Select the magic wand tool and set it to the values shown at the bottom left. Click in the white area (between the check pattern and the microphone base) – notice how the entire white area becomes selected. Select **Edit>Fill** and set to 'clear' the selection, then hit **OK**. The white should change to a check pattern. If there are any stray grey pixels around the outline of the selection, deselect and use the eraser tool to clear them off. (If it doesn't just clear them, check the settings in its options.) With no selection and the stand reduced by 50% and centred, draw a marquee around the base of the stand (this time including a little of the stand itself) and move it a good way away from the rest – keep it in line though. Draw a lasso around a stumpy bit of the stand, hold down the **[option]** key and move the selection down a little. This copies the selection. Repeat this operation until you've lengthened the stand considerably (but take your finger off the **[option]** key between each copy).

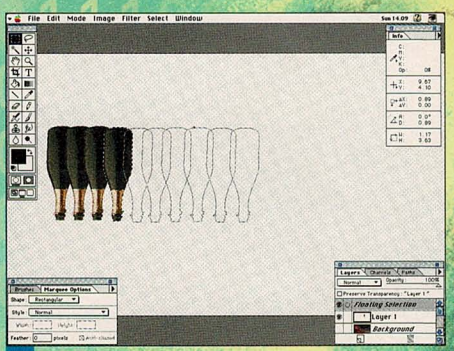
PHOTOSHOP TIPS

Photoshop is such a deep and complex piece of software that every user finds his own favourite techniques and shortcuts. Around these pages are a few tips by Marc Woods.

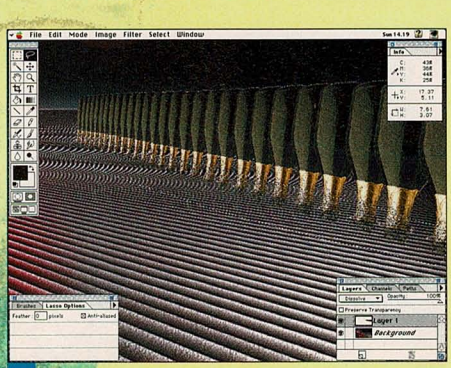
Give it plenty of space to work in.

Photoshop can generate enormous files, and it uses hard disk space as a 'scratch disk' to save temporary versions of the file you're working on. It's a good idea not to use your Startup volume as a scratch disk since this can slow things up considerably. As a general rule of thumb, allocate RAM of four times the image size and a scratch disk ten times the image size – so if your image is, say, 4Mb, you would need about 12Mb allocated to *Photoshop* and 40Mb of scratch space. You may run into problems with anything less for either, especially if you have too little space on the scratch disk since *Photoshop* will use extra scratch space as virtual memory when necessary. (This also means, incidentally, that running either Virtual Memory or *RAM Doubler* can actually slow *Photoshop* down on larger, more complicated images – although for general use both are fine!)

3. BE FRUITFUL AND MULTIPLY

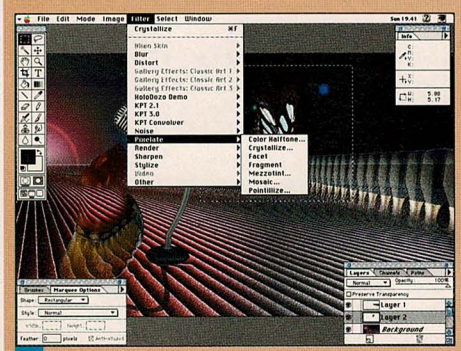


1 Open the champagne bottle image. Load the selection, copy and paste it into a new layer on the background image. Reduce the bottle to about 35%, then flip it both vertically and horizontally. Position the bottle as far left as possible. Using the technique described earlier, duplicate the bottle repeatedly across the page (use the **[option]** key between each move). Then select all your bottles in a marquee. Using **Image>Effects>Perspective**, reduce the left hand end until the bottles appear to be growing into the distance. Move up and to the right from the bottom left corner – wait between each position for a preview. When satisfied, click inside the bottles. You'll see a needle as with the Scale tool and others. Move the bottles to a suitable position over the background and deselect.

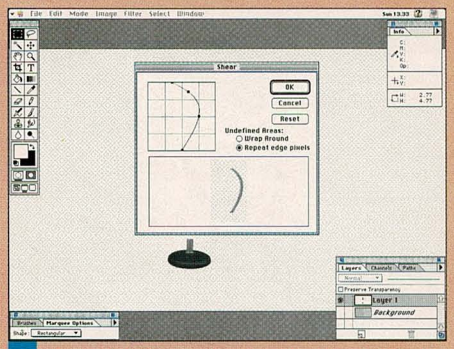


2 Draw a lasso around the bottoms of the bottles, feather to about 25 and fill with 50% clear. Using the same selection, use **Filter>Ripple** set to about 100 and medium. With the bottles in position, go to the **Layers** palette and select **Screen** from the pop-up options for layer 1. This will make the bottles' colour mix with the background colours to create a third, lighter colour – as you can see here (**Screen** has not been selected) and in the final image. Do not flatten the image but do save.

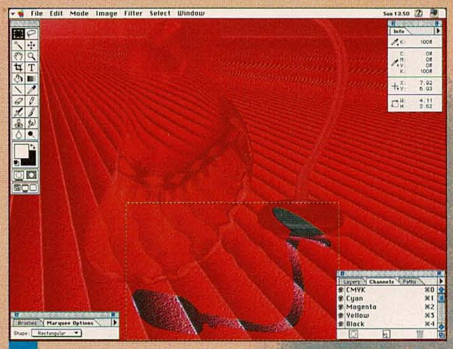
4. MOVING FAST



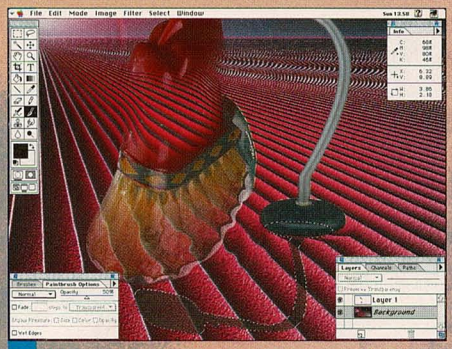
1 Adding the butterfly is dead easy. Create a new layer, then drag this layer between the bottles layer and the background. Load the butterfly, select, copy and paste into layer 2. Reduce the butterfly to about 40%. Draw a marquee around the butterfly and use the **Crystallize** filter on it, set to only 3 or 4 fragments (so you don't lose too much detail). Draw a marquee around the butterfly again, and this time move it to a position somewhere to the back of the image, behind the bottles a little. When you stop the move, because the area around the butterfly is transparent the selection rebounds to a tight crop. Contract this by 5 using **Select>Modify>Contract**, and **feather** by 12.



4 Separate the top and base from the elongated stand. (Note how the pieces all remain individually isolated parts on the transparent background.) Select the floating column using a largish marquee (not touching anything else) and, using **Filter>Distort>Shear**, bend the stand as shown. Now collect the top of the microphone and free rotate the piece until it aligns roughly with the top of the bent column. Move it over the column until it obscures any loose parts of the shear operation. Join the base with the bottom of the column – do not rotate it though – and you have a bent microphone and stand. Position the stand where you want it and save the resulting channel.



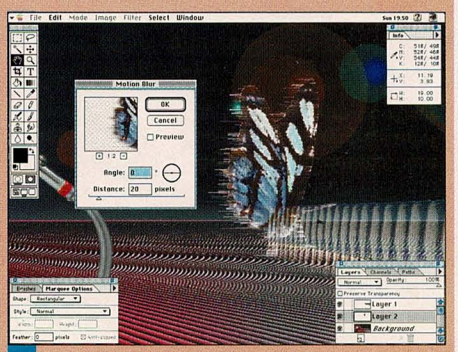
5 With layer 1 visible, click on the background layer to make it active. Draw a rough shape with the lasso tool around the base of the stand (where it will sit after the flatten operation). Feather the selection a little and apply the **Twirl** filter to it. It should look like the stand has been ground into sand. In the **Channels** palette (bottom right, next to the layers tab), select channel 5. The screen should now contain a white-out version of the microphone on black. Hit **D** and then **X** until the background colour is black (see the tool palette on the left here). Drawing a marquee around what will become the shadow, select **Scale** and reduce the height by 50% (don't alter the width). Flip the selection vertically so that it is upside down. Just as you did with the layers, click in the 'eye' space of the channel marked **CMYK** (this is the composite view of the image) but don't select it. If the background does not appear, check that the eye is visible in the **Layers** palette. The transparent red sheath over the image is the area that is masked – that is, it will not be affected by any attempted alterations. Note that the 'shadow' is the only part of the image which shows as normal.



6 With a marquee around the shadow, move it until it falls roughly where a shadow would, rotate and arrange it until it looks right. The top of the shadow is unlikely to be at the correct angle, so in the same way as you replaced the top and bottom of the stand earlier, move the top of the shadow by rotating and then drawing in the odd pixels. Once you are happy with the position click on the **CMYK** icon and the screen will revert to normal. Making sure the background layer is selected, load channel 5. With a brush selected – any size that suits you – hit **X** to change black to the foreground colour. Set the **Paintbrush** options to 50% opacity. Simply draw over the selection with the paintbrush and the ground will become darkened, as in the picture. Once you are happy, flatten the image, delete the channel and save your picture.

PHOTOSHOP TIP

Work in CMYK. Most of the *Photoshop* artists I know work in RGB, the colour model used for screen display. There are good reasons for this: it's what you're used to looking at on screen, and it keeps the file size smaller than CMYK. However, if your work is ultimately going to be published, working in CMYK helps you keep your colours within the gamut that it is possible to reproduce faithfully on paper, gives you a more accurate feel for what the result is going to look like and, importantly, keeps you from feeling disappointed at how much 'flatter' all your lovely bright RGB hues seem to become when you finally convert them to CMYK for output.

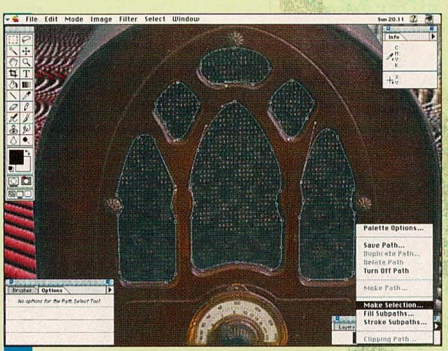


2 Invert the selection, using **Select>Invert**. This means you will now be affecting the outer edges of the butterfly without altering the interior. Go to the **Filter** menu, select **Wind**, set it to **Blast** and hit **OK**. The lines will be a little jagged, so use **Filter>Motion blur** set to about 20 and 0°. Finally make the layer 'hard light' from the same pop-up as before. Now you can flatten the image, delete any channels and save... Nearly there!

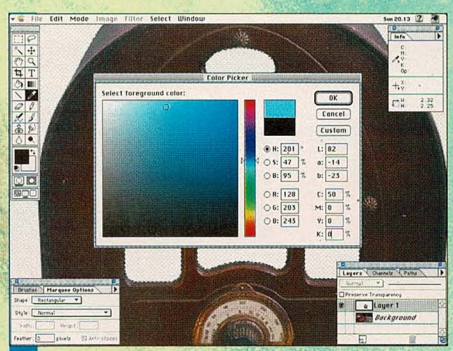
PHOTOSHOP TIP

A tip for better rendering. If you're interested in 3D modelling, note that in some cases rendering an image twice the size or resolution needed and halving the image in *Photoshop* afterwards using bicubic interpolation can be quicker and give much better results than initially rendering with anti-aliasing turned on.

5. DALI IS DEAD



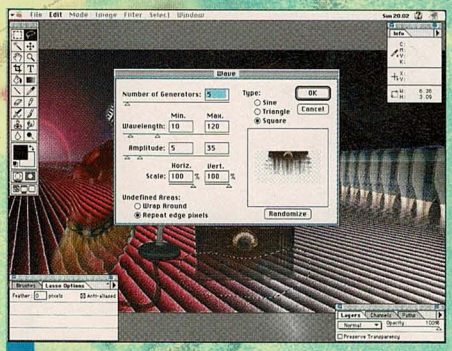
1 The radio may take a little longer. Pull in the radio face image, scale it to about 60%, copy and paste it into a new layer. In the **Paths** palette you will find a path drawing tool. Use this to draw paths around the speaker covers. Then use **Make selection** from the **Paths** options to create a selection from your paths. Save your paths and click the Channels tab to hide the paths.



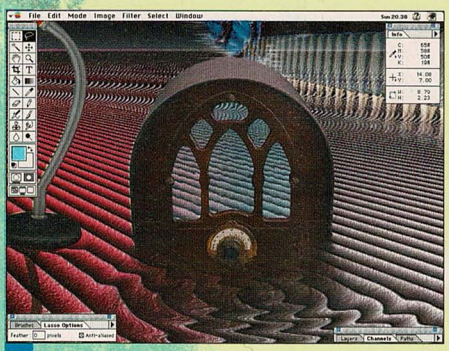
2 Clear the selection with **Edit>Clear** (which has the same effect as **Fill>100% clear**). Make a colour only 50% cyan and fill the selection with it. Now use 30% clear on the same selection. (I found this the only way to get a light, semi-transparent blue of the consistency I wanted – and even now I can't see how to do it more easily.) Draw a marquee around the bottom, up to the knob, feather (25) and clear 50%.

Continued on next page

5. DALI IS DEAD (CONTINUED)



3 Now add a rippled distortion effect using **Filter>Distort>Wave** set as shown. Hit **Randomize** until you're happy with the preview, then **OK**. To clean up the image, use **Motion blur** again, set to 40 and 90°. Clean up any undesirable effects by **[shift]**-selecting the two blasted edges – use the lasso tool on one side first, then hold down the **[shift]** key to select the other as well. This time feather to 10 pixels and motion blur to 20 at 0° or 90°, whichever you prefer. Select all of the wavy area with another lasso, feather (15) and filter with **Ripple>medium** (300). The effect should be quite a pleasing melting radio. Finally, encompass all of the clock and move it to its final position.



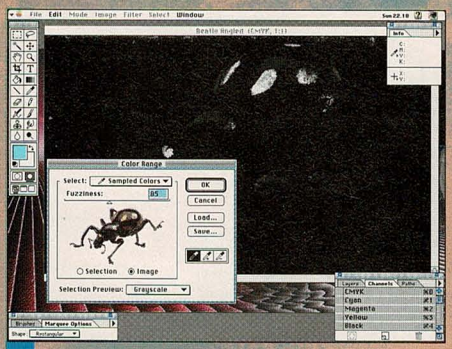
4 Remember the earlier paths? Get them now. They will have moved from their position, but draw a selection around them with the path selection tool from the **Paths** palette, move them to their new home and create a selection from them once again. This time make the background active and increase the selection size with **Select>Modify>Expand** (set to 2) and feather (5). Use **Filter>Spherize** (50) to create a diffraction behind the 'glass' in the background. Flatten the image and delete your paths. Draw another lasso round the clock's tassels, feather (15), **Filter>Distort>Zigzag** (15, then 4) around the centre and zigzag again (30, then 6) out from the centre. Deselect and save.

PHOTOSHOP TIPS

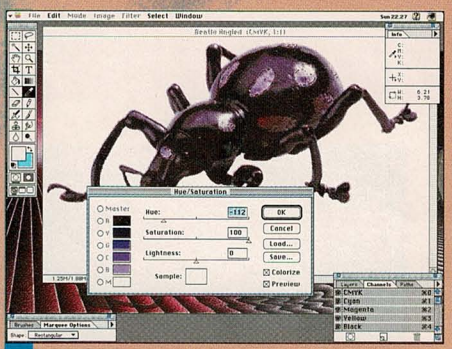
Watch your shadows and light direction. When I put this piece together, a lot of thought went into lighting and direction of shadow – it's almost done for you when 3D modelling, but judging the lighting direction within an image when retouching is very important if you hope to create something vaguely believable. In this piece, the microphone stand's shadow, for instance, does look like a shadow but is not going in the right direction within the virtual dreamscape. You can, however, always get away with anomalies like this by simply calling your image surreal!

Learn by experiment. With software as powerful as *Photoshop*, it takes a while to discover all the neat tricks and effects it is capable of. There's no better way to learn than by experimenting. However, for inspiration and ideas, there are two invaluable Mac-side companions: *The Photoshop 3 Bible* by Deke McClelland, and *The Photoshop Wow Book* by Linnea Dayton and Jack Davis. Look for them at your local bookshop or specialist retailer.

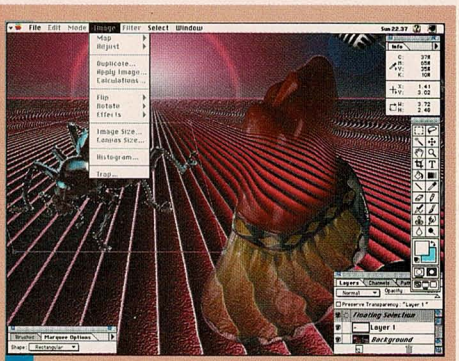
6. FROM ANOTHER WORLD



1 The insect is quite simple. Open the beetle image. Select **Colour range** and click on the yellow in the small preview and set it to about 85. Now feather (three to five pixels).



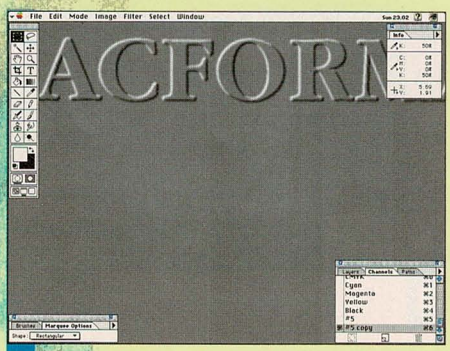
2 Now use **Image>Hue/Saturation** configured as shown here – or to your taste, of course. You can move the **Hue** bar for different colour hues, but in this case we chose to colorise the selection since it produces a more pleasing result. Load the selection and copy and paste into a new layer. Move the beetle over to the hilly area.



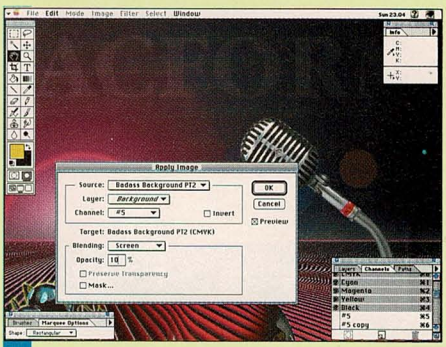
3 Using **Image>Effect>Skew** and **Perspective**, try to get the beetle to look as if it is coming down the hill. You could make the area under each foot a little distorted to suggest its weight, or even add lines of distortion going back for a walking effect. Once you are happy, save the selection and flatten the image. Load channel 5 and use **Select>Modify>Border** (set to 2). Feather (just one pixel). Make a yellow colour and fill the selection with 75% to add a yellow glowing outline – though this is optional. Delete the channels and save the image.

7. ADDING THE TEXT

1 Create a new channel. Type some text in using the text tool set to 48 points and whatever text you desire. Position it as you did the microphone shadow.



2 When you're happy, duplicate the channel (from the Channel options) and, using **Filter>Emboss** set to –35°, height 4 and amount 400%, emboss the duplicate. The best results with the **Emboss** filter seem to be achieved by setting the percentage to the same multiple as the height – 3 to 300%, 4 to 400% and so on. Now use **Gaussian blur** (set to 1.5) to smooth the effect.

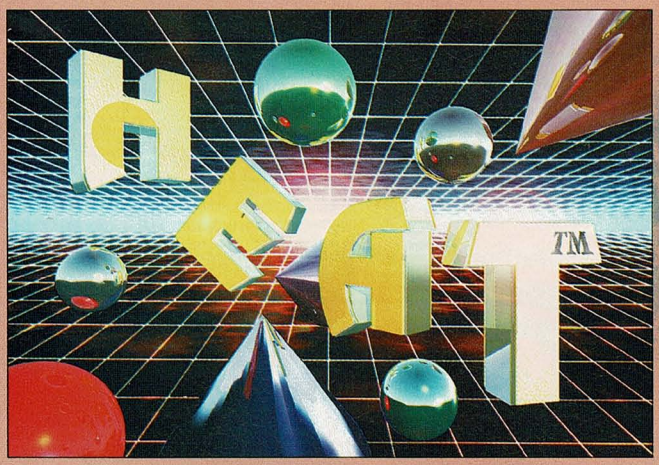


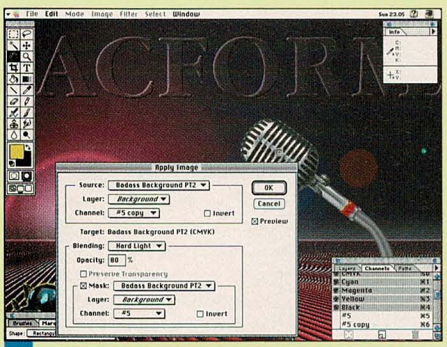
3 Make the image active (click CMYK or hit **[command][zero]**). Use **Image>Apply image** set up as shown here to attain the first part of the text effect. This should basically make the area of the text lighten 10%.

ART GALLERY

Here are some examples of published work by Marc Woods of Inspiration FX showing what can be done with some of the effects he's described – and a lot of time and patience!

Most of these pieces were created to customer specification, and many use some of the effects described on the preceding pages. All the artwork is computer generated using various 3D and illustration packages, plus the invaluable *Photoshop*. In general the initial output is taken from, say, a 3D package and further work is done on it in *Photoshop* – many 3D packages are not capable of producing printable artwork, because they will only render the picture in RGB, not CMYK. On top of that, the anti-aliasing and general texture and image quality can always be improved by running a few filters and processes over the image.





4 Next run the **Apply image** effect again, twice, this time set up as here. Your final effect should look something like the word 'MACFORMAT' across the top of the collage. The word 'collage' was added by making another channel, loading it in the main image and colorising with the **Hue/saturation** controls. Job done!

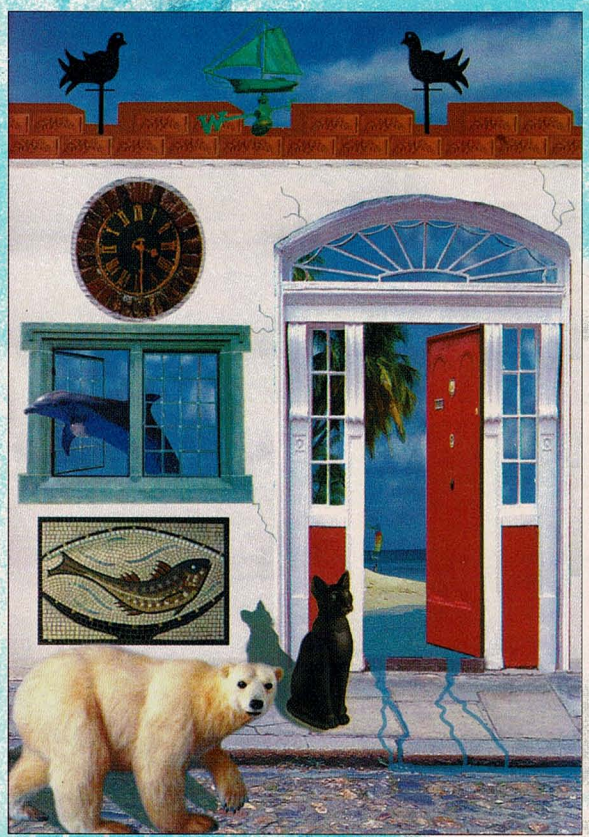
Continued on next page

On Display

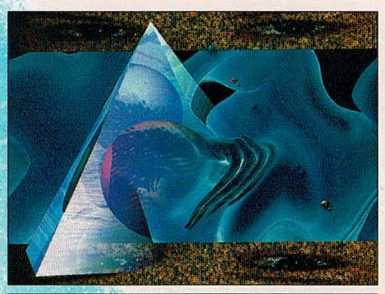
Are you a Mac-based graphic designer or artist? Perhaps you just dabble in image editing or photo retouching. Whatever kind of Mac art you produce, you could put it on display in the pages of MACFORMAT or in the regular 'Readers' Corner' on our Cover CD. And if you have some tips or techniques you'd like to share, we'd be especially glad to hear from you.

Just save your work on disk or SyQuest in a format other readers will be able to open – TIFF or PICT would be fine – and send it in to 'Art Gallery', MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. We'll make every effort to return your disk to you – please enclose an SAE.

If you've used photographic images, make sure you have the copyright owner's okay, and note that by sending your work to us you license Future Publishing to reproduce it in printed or electronic form – we'll send full details of our terms on request.

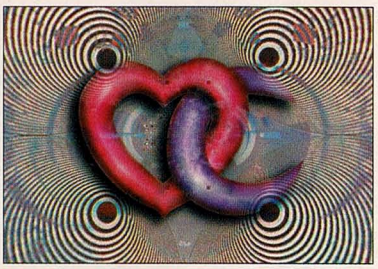


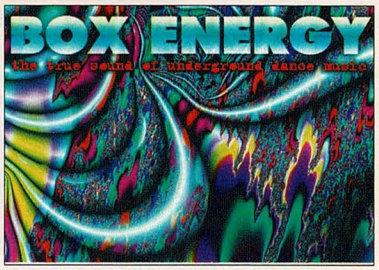
MACFORMAT reader Peter the Duke created this image, entitled 'Red Door', with *Photoshop*. He says there's a small mistake in the picture. Can you spot it?



Will Redmond uses the landscape creator *Bryce* and *Photoshop* to produce interesting effects.

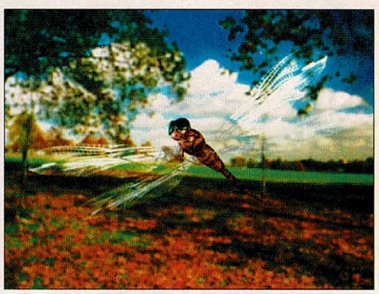
Starting with his own photos, Marco Dolfi creates images which were impossible without a Mac.





Rebekah Kortokraks designed 'Optimist Creed' and 'Box Energy' for use on promotional fliers.

Soren Bech Jensen created 'Vulture Visions' almost by accident, experimenting in *Photoshop*.



Octávio Neto blends a 3D modelled dragon onto a photographic image in 'Gomphus Vulgaris'.

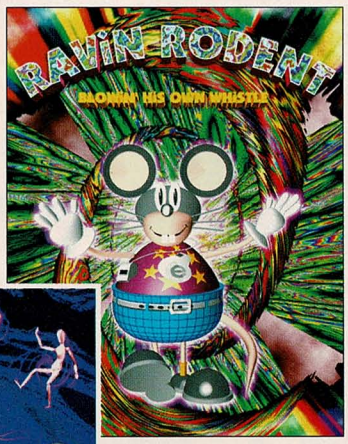
PORTRAIT OF THE FUTURE

The evolution during the 1980s of the way computers display information, from an inflexible text-based format to a full-colour graphic layout, changed more than just the way you use your computer. It also meant you could show images – photos, line drawings, colour illustrations – on-screen. The computer's ability to interpret visual information as a digital structure it could both understand and change has led to the situation today, where the use of digital images is accepted as part of everyday computing.

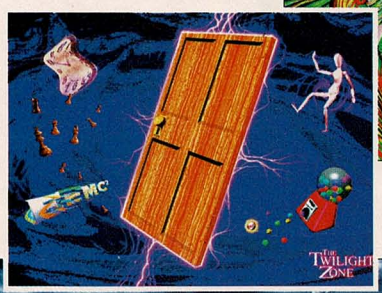
In a high-tech world of Macs, scanners and colour printers, where you can switch back and forth between digital and physical, computer developers are now starting to realise the implications and take us towards a new way of working. Apple recently announced its plans to create the Apple Image Capture Platform, a system that promises to blend devices like cameras with computers. The new system revolves around QuickTime IC (Image Capture), an extension to Apple's video software. Working in conjunction with a brand new processor chip from Motorola, Apple's partner on the PowerPC project, QuickTime IC makes it easier to build digital cameras and means that these devices will be capable of using software themselves.

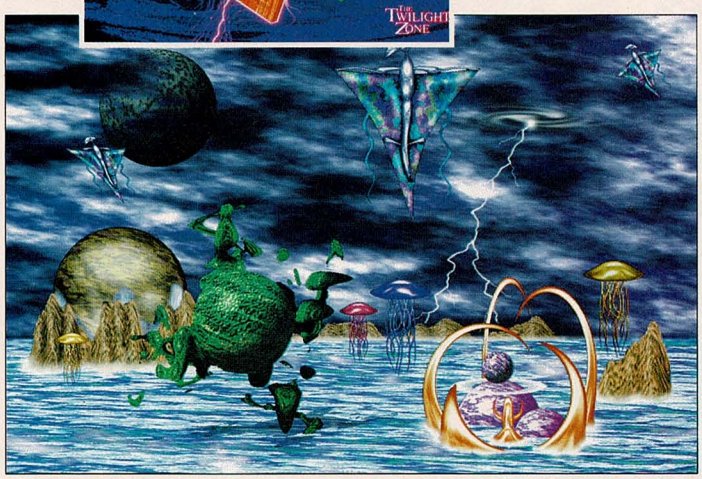
This means you may get cameras capable of producing automatic time-lapse sequences – the familiar view of flowers blooming in seconds being one example – and converting the results into a QuickTime video movie, all done within the camera itself. Or you could easily set up a camera to produce a virtual reality environment automatically, photographing a complete panorama and executing the procedure required to make this into a QuickTime VR clip. Such a new digital camera could become a crucial part of the computer market's growth away from the powerful but expensive personal computer and towards a variety of low-cost devices tailored to your specific needs.

Another part of the old way of computing that could soon end is the proliferation of different file formats. Our series on graphics files (continuing on page 72 this issue) deals with acronyms like TIFF, GIF and JPEG, but really all this hopping between different formats shouldn't be necessary. Now a coalition of firms – Kodak, Live Picture, Hewlett-Packard and Microsoft – is proposing a solution to file conversion blues. FlashPix is intended to be a ubiquitous, flexible format: firms such as Apple, Intel, IBM, Macromedia, MetaTools and Corel will be supporting it. FlashPix incorporates copies at several resolutions within one file, meaning you can use a 'small' image to display on your Mac's screen and a 'large' image when it's time to print out the picture in rich detail. It uses the JPEG



Jon Hitchcock used *Illustrator*, *Photoshop* and *Dimensions 2* to create these complex images. With the aid of effects from a wide range of filters, they really come to life.





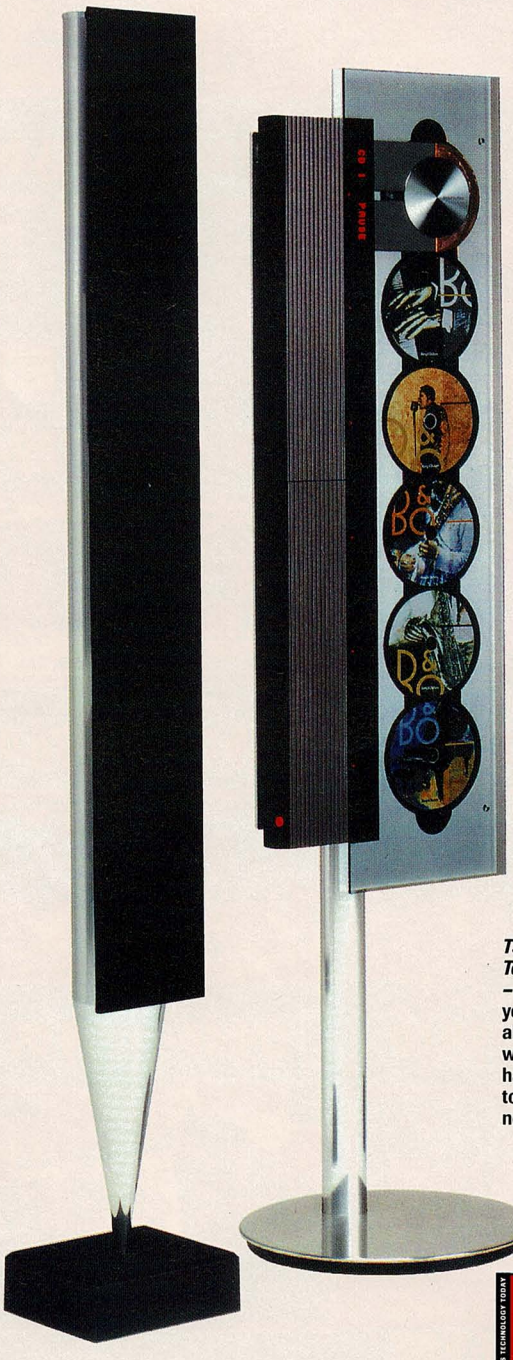
compression system so that file sizes are kept to a minimum.

The FlashPix standard should enable anyone to work with digital photo images on relatively modest computers and get true photo-quality output without needing to invest in extra memory, a larger hard drive or a more powerful machine.

In the same spirit, Kodak's *Picture Postcard* software, bundled with its DC-20 digital camera, is intended to make it easy for anyone to make more use of their digital images, for example incorporating them into greeting cards or e-mails, showing off their products to potential customers, or any other use that you can possibly imagine. For example, says Doug Pileri, Kodak's director of strategic planning for Europe, 'A florist can send pictures of their bouquets to a customer so they know what they're getting.'

Whatever the future applications, one thing is clear: digital image manipulation will no longer be an arcane, professional-level pursuit. With amazingly powerful software like *Kai's Power Goo* costing less than most games, playing with images becomes as accessible an option as playing your favourite shoot-'em-up or flight sim. No wonder Doug Pileri says, 'I think digital imaging is the next killer application.' **MF**

What the *hell* is this?



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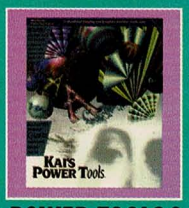

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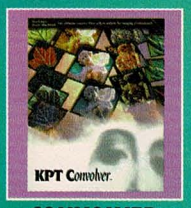

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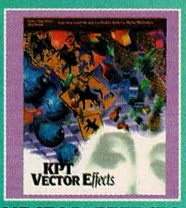

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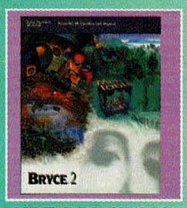

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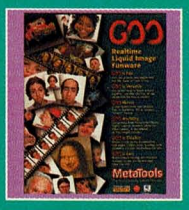

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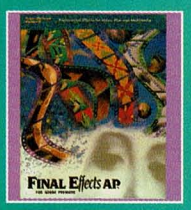

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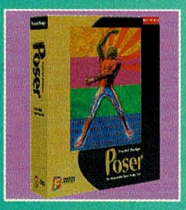

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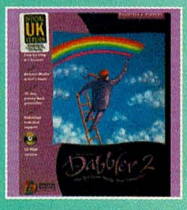

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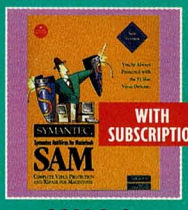

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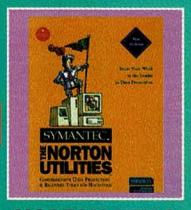

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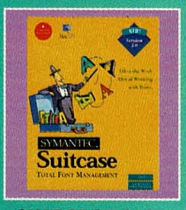

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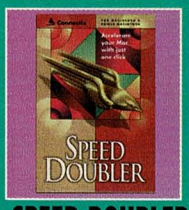

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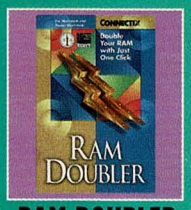

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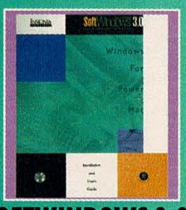

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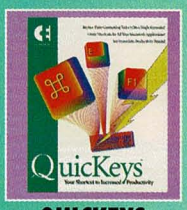

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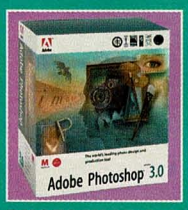

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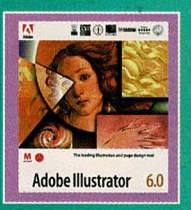

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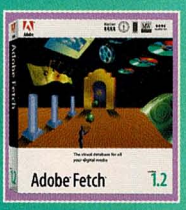

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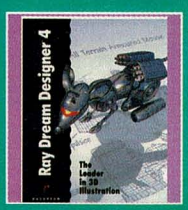

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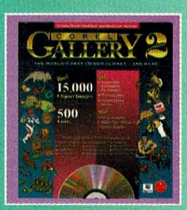

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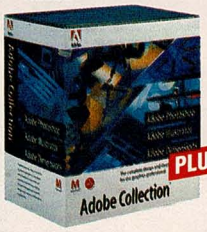

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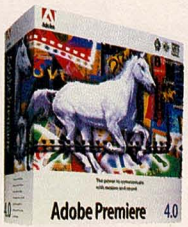

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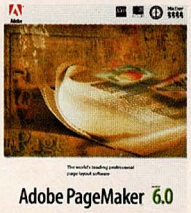

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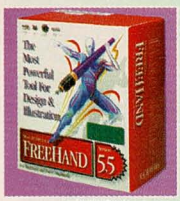

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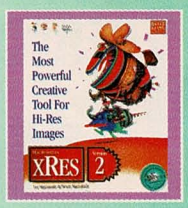

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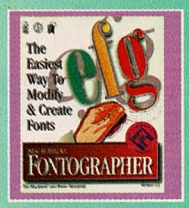

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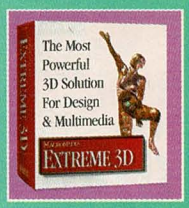

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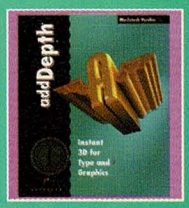

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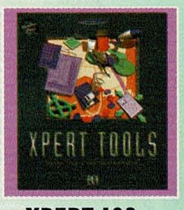

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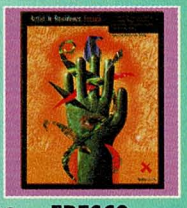

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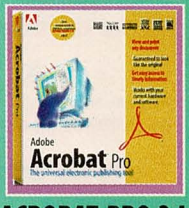

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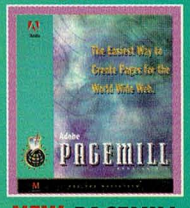

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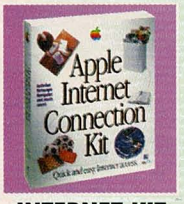

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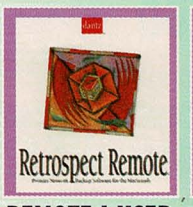

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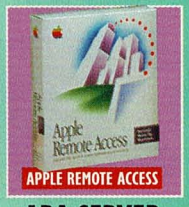

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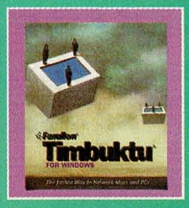

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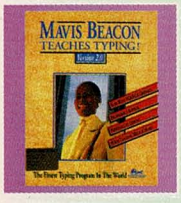

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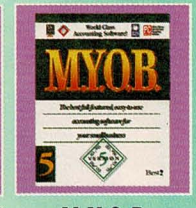

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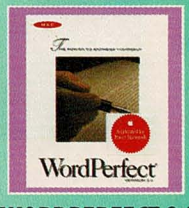

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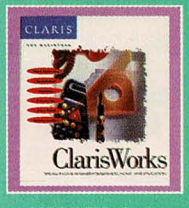

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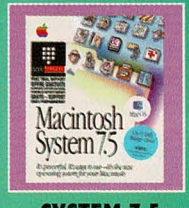

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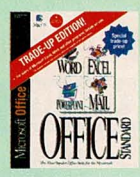

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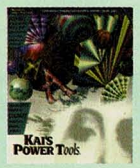

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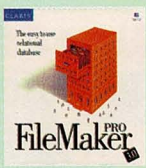

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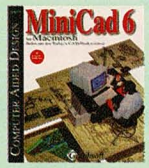

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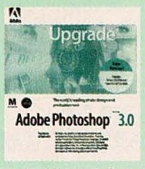

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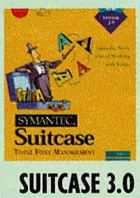

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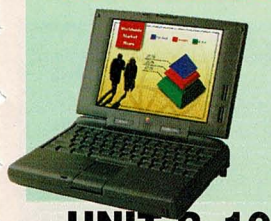

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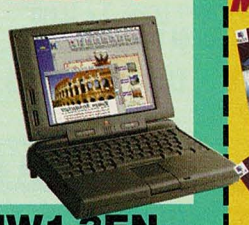

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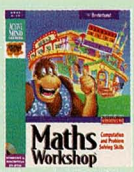

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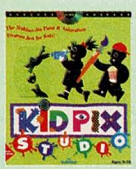

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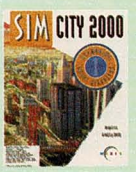

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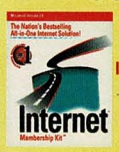

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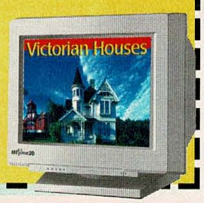

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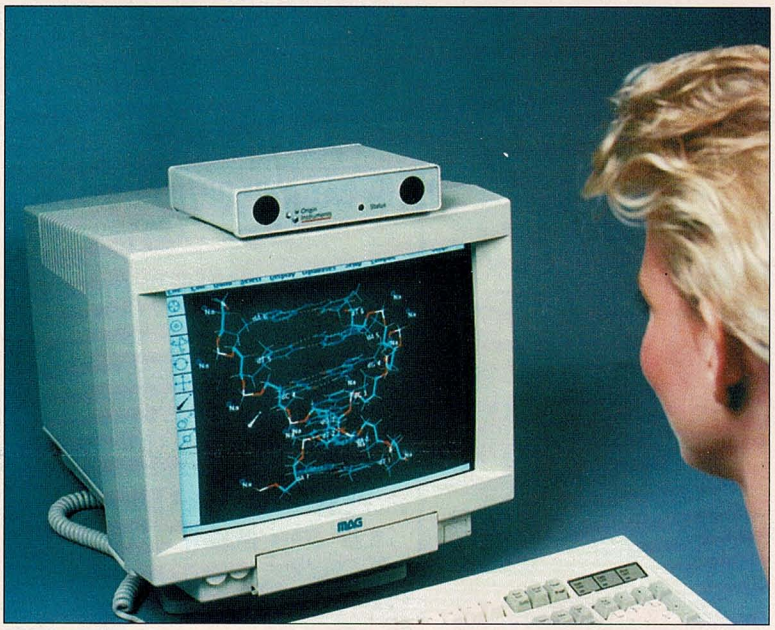
Friendly to all users

In the second of three special MACFORMAT reports, Derek Smith looks at control devices developed to help people with physical disabilities use Macs... and discovers that tomorrow's technology is already here.



The HeadMouse detects your head movements and controls the mouse pointer on screen appropriately.

INTERNET

If you have access to the Internet, then pay a visit to Disability Access at **http://www.globalnet.co.uk/~pmatthews/DisabilityNet/index.html** for a host of disability resources.

More than any other factor, the thing that attracts people to the Macintosh is its ease of use. Oh, all right, and its range of powerful software. And how much power you get for your pound, obviously. And that nice smiley face, probably, *and* that lovely start-up sound. I know people who deliberately crash their Macs just so they can hear it again. But today we tend to forget how brilliant an idea point-and-click really is. All that matters is that you can perform these two tasks. And you don't *have* to do it using your hands.

Last issue we looked at products designed to help the visually impaired, and this month we concentrate on physical disability. Once again, some of the innovative technologies used here suggest how we may all communicate with our Macs in the future. All of these products were developed to enable you to get Mac access, even if you have the minimum of mobility.

For instance, imagine a product which enables you to move the cursor by moving your head *and* perform all mouse clicks and drags with virtually no movement. Madenta, an American company, has made this a reality with HeadMouse. A sensor sits on your desk or monitor, and tracks a tiny dot that can be stuck to your forehead or any other part of your body which has appropriate movement. As you move your head, you control the pointer on screen. It's not quite as clever as tracking your eye movements – but considering that the military have already developed such a system for aiming weapons, that can't be far off either.

Madenta also produces *Doors II*, which enables you to type by clicking on an on-screen keyboard with the cursor. Although this is mainly intended for people with limited movement or a repetitive strain injury, it is has wider uses. Imagine a hazardous factory where a keyboard would be a liability – combine an on-screen keyboard with a touch-sensitive screen (we'll come to those) and a keyboard and mouse become unnecessary.

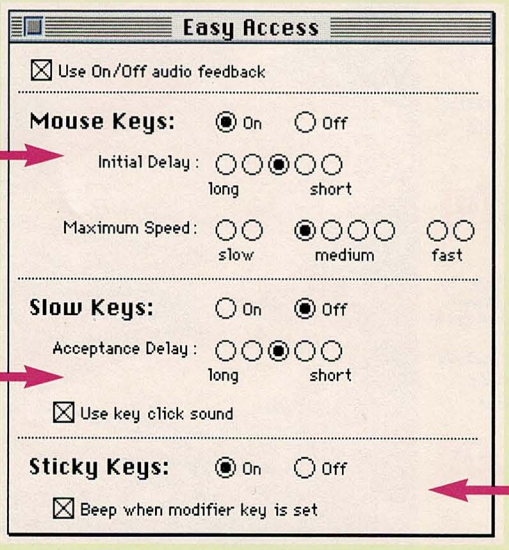
Another way to circumvent the keyboard is to use *Pre-Dict-ate*, a voice

EASY ACCESS – WHAT IT SAYS IS WHAT YOU GET

Last issue we took at look a Apple's free Control Panel **Close-View**, which aids the visually impaired. Its sister Control Panel is called **Easy Access**, and is designed for anyone who has trouble using the keyboard and mouse. It has been included as part of the System software for many years now, although it's not installed by default, so you'll have find it on your System disks and drag it onto your System Folder icon to install it. It provides three helpful features...

Mouse Keys enables you to move the mouse pointer using the numeric keypad. The 5 is used to replace the click of the mouse button, and the numbers around it move the mouse in the relevant compass direction. The 0 key holds down the mouse button, and the decimal point releases it, thus enabling you to drag items. The shortcut to turn this facility on and off is **[command] [shift] [clear/num lock].**

Slow Keys prevents accidental key presses from being accepted. Once it's turned on, a key must be held down for a specified period before being accepted. The shortcut to turn this on and off is to hold the **[return]** key down for about 15 seconds (only let go when you hear the second beep).


Easy Access
Use On/Off audio feedback
Mouse Keys: On Off
Initial Delay: long short
Maximum Speed: slow medium fast
Slow Keys: On Off
Acceptance Delay: long short
Use key click sound
Sticky Keys: On Off
Beep when modifier key is set

Sticky Keys makes it easier to use multiple-keys combinations like **[command] [shift] P.** Once it's activated, you can press any control key once and it will stay pressed until you hit another key. Press a control key twice and it will stay pressed until you hit it once again, thus enabling you to type a series of control key combinations. The shortcut to turn this on and off is to press **[shift]** five times.

recognition system where you type one letter at a time using the international standard words – for example, if you say 'Sierra Mike', the letters S and M appear on screen. This can be used by itself, or in combination with *Telepathic II*, a utility that tries to predict what word you are typing and finishes it for you. It can even guess what the next word is likely to be by analysing your typing habits over a period of time. Obviously this saves effort for those anyone who has trouble typing, but it can also help any 'hunt-and-peck' typist. These products are distributed in the UK by Don Johnston.

There are several companies making touch-sensitive screens such as Edmark's TouchWindow. These attach onto any standard Mac monitor, and typically plug into the usual keyboard (ADB) port. They can emulate all keyboard and mouse functions with a reasonable degree of accuracy, and start at around £350, depending on their quality and the size of your screen. Contact Keyboard Technology or Don Johnston for more info.

In Touch Systems makes the Magic Wand Keyboard, a zero-force keyboard that plugs into the ADB port, just like your standard keyboard. The difference is that you type with a special wand, which can be held in your hand or mouth. The keyboard has a standard layout, so you need reasonable control to touch the correct keys. However, it requires no pressure, making it ideal if you're very weak. It also gives you full control over the mouse and control keys, and it can even store programmable macros.

If you want to keep your existing keyboard but have trouble hitting the keys accurately, you can buy keyboard overlays. These sheets of plastic rest over the keyboard, and have holes for your fingers to go through and type. It makes hitting each key a slower, more deliberate action, but greatly helps if you have accuracy problems.

If a keyboard is of no use to you, what about typing with your tongue? The TongueTouch Keypad, produced by newAbilities, is a nine-button device that fits to the roof of your mouth, much like a dental brace. By pressing the buttons with your tongue you send infra-red signals to a receiver, which plugs into a controller. This controller can then plug into a Mac – or control a host of devices, including some wheelchairs. Indeed, the controller can take its power from the wheelchair battery.

Imagine a product which enables you to move the cursor by moving your head

If you suffer from extreme physical disability you may not have enough accurate control to use any of these devices. However, the world of computers is still not closed off to you. As long as you are not totally paralysed and are able to move some small part of your body, you can use a single button switch.

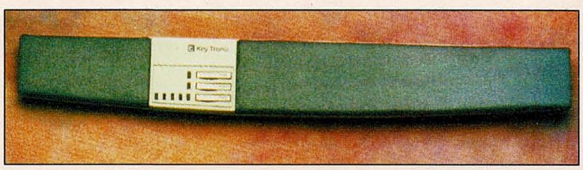
It may seem incredible that you can control a complex computer by simply pressing an on/off switch, but most work on the following basis: press the button and a menu appears on screen with a series of choices: **Move the mouse**, **Press a key**, or **Use a menu**. Each option highlights in turn, and when the one you want is highlighted, you click the button again. Say you select to type a character. You are then asked whether it is in the first, middle, or last third of the alphabet. You click, and then see each letter in that portion of the alphabet highlight in turn. When the one you want to type is highlighted, you click again. Thus you type a single letter.

This may seem a time-consuming and somewhat frustrating interface, but Geoff Busby has proved that it is no barrier. He uses the Ke:nx system from Don Johnston, which is an interface box that can accept a input from a variety of devices. (Geoff tells his own story overleaf.) You can even use the single button to tap morse code – the oldest form of telecommunication controlling the newest! **MF**

Continued on next page

The MicroTouch ClearTek 2000 boasts 'smart' touch screen technology and greater accuracy, but it costs around £1,000.

Keytronic produces two wrist rests – the first one has a built-in trackball to assist you in ease of control.



The second has an electronic module that monitors keyboard usage. This should be useful in preventing strain-related injuries.

EYE STRAIN

You may not think that it matters sitting close to your screen, but damage caused by eye strain builds up over many years. Avoid it by placing your monitor one metre from your head, and regularly turn away from the monitor and focus on an object at least 20 metres away.

CONTACTS

- **Don Johnston:** 0161 628 0919.
Wide variety of products for all forms of disability.
- **Iansyst:** 0171 607 5844 or e-mail **100273.1226@compuserve.com**
Produces a variety of dyslexia products.
- **In Touch Systems** (in the US): 00 1 914 354 7431 or e-mail **74425.1633@compuserve.com**
Produces zero-force keyboard for those with weak limbs.
- **Keyboard Technology Ltd:** 01509 672222.
Provides touch-sensitive screens for the Macintosh.
- **KeyTronic (in the US):** 00 1 509 928 8000.
Produces wrist rests, designed to prevent Carpal Tunnel Syndrome and similar strain-related injuries.
- **Liberator:** 01476 550391.
Variety of speech machines for those without speech (not a Macintosh technology).
- **Matias Corporation (in the US):** 00 1 416 749 3124 or e-mail **ematias@dgp.totonto.edu**
Makes *Half-QWERTY*, a software product that facilitates standard touch typing with only one hand.
- **McIntyre Computer Systems (in the US):** 00 1 810 645 5090, fax 00 1 810 645 6042.
Produces LipStick, an input device that can be operated by any part of the body with one inch of movement.
- **MicroTouch Systems Ltd:** 01844 260123.
Touch-screens for the disabled and for public places.
- **newAbilities (in the US):** 00 1 415 988 8889, fax 00 1 415 856 2822.
Produces the TongueTouch keypad.
- **Westest Engineering (in the US):** 00 1 801 298 7100, fax 00 1 801 292 7379.
Provides computer control devices for people with extreme physical disabilities.

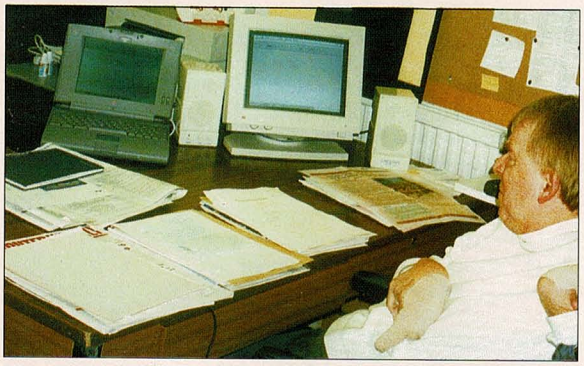
A word from the wise

Leading by example, Geoff Busby is a respected representative of people with disabilities. He also had the fame of having a whole page dedicated to him in Apple's direct mail-order catalogue. Fortunately, his career has been much longer lived than that idea... Here's his story.

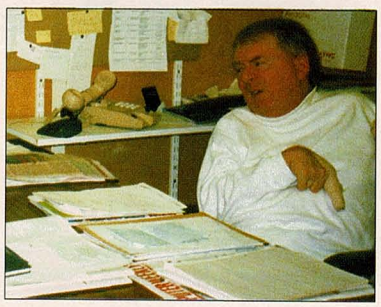
Early learning centres

I was born in 1943 with Cerebral Palsy. Fortunately, the injured part of my brain, which is what Cerebral Palsy is all about, was restricted to the areas affecting the motor control rather than my intellectual or sensory ability.

After a fairly normal childhood, I gained a Master of Arts degree in technology, backed up by psychology. I am married with two teenage sons and have spent most of my adult life concerning myself with how technology can improve the lives of people with disabilities. This has brought me recognition through an MBE and an Honorary Doctorate from the University of Middlesex.



Geoff Busby uses a knee operated switch to control his PowerBook 520.



After leaving university I became a member of the British Computer Society (BCS) and in 1975 started a specialist group to look at disability issues. The group is now well established and is one of the oldest in the British Computer Society. As Chairman of this group I have been privileged to visit Japan, the USA, most of Europe, and even Iraq during its first war with Iran. Such experience has given me a wide view on disability issues in general.

The group currently has around 500 members. Its main aim is to increase awareness of the empowering characteristics of technology, which in turn liberates latent skills and talents that previously were imprisoned by physical, sensory or mental disabilities.

So what of technology – how can it enhance the lives of people with disabilities?

This question was asked by a group of Apple USA employees in the 1970s after they had been approached by a group of parents with children who had some kind of disability. The outcome was the formation of a special needs department, headed by Alan Brightman. He and his team pioneered the way, simply by carrying through the philosophy of Apple, which was – and still is – to make its products as user-friendly as possible.

In a nation with 6.2 million people with disability, I question that anybody can afford to ignore the growing potential of technology

Before long the parents, led by Jackie Brand, had set up a network of day activity centres and self help groups with the equipment provided by Apple.

The children who attend are the lucky few to be exposed to technology with appropriate cognitive software packages and adaptive technology – for example, alternative input devices like touch-sensitive pads. Areas of the pad equate to a key of a keyboard, or an icon. Depending on the physical ability of the user, the pad can be defined to have many small areas, or perhaps just two large ones. Similarly, the use of touch-sensitive screens was common, but has become less so with the advent of these pads.

Moving away from children into the adult world, technology has afforded people with a disability the opportunity to continue to work and lead a life with quality and self-esteem.

Some ten years ago a piece of adaptive equipment known as Headstart was designed in the UK. This consisted of a headset – like a personal stereo – which receives ultra-sonic signals from a small transmitter attached to the computer. This enables the operator to move the pointer on screen by moving their head. A click could be achieved by variety of methods, including blowing into a tube. Emulated keyboards and tools, which appear on screen, can be controlled in the 'head-up' position by this method.

Other types of input include single large button switches and micro-switches mounted adjacent to any controllable limb or muscle the user may have.

I have recently acquired a PowerBook 520 and a single switch input device. I operate the switch, which is clamped to the underside of my desk or on the back of my wheelchair, with my knee or head accordingly. The interface to my PowerBook is via Ke:nx, which has been produced by Don Johnston.

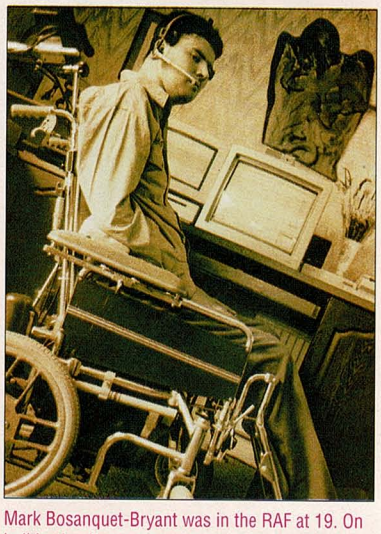
I use it to control *Co:Writer*, a word prediction utility. It speeds up the laborious process of typing by trying to guess what word I am writing, using artificial intelligence. For instance, if I type a **t** at the start of a sentence, it will guess words like **The** or **Then**. I use this with *ClarisWorks* to produce visual material to be projected via an overhead panel.

As I have a moderate speech impairment, I also use *Write:Outloud*, a talking word processor. The above hardware and software enables me to produce and present lectures which are comparatively easy for me to deliver and for the audience to understand. I will also be using the same kit to communicate through e-mail via the Internet.

I finish with a commercial break. Anyone wishing more information about the BCS Disability Group should contact me c/o GEC Computer Services, West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN.

In a nation with 6.2 million people with disability, I question whether anybody can afford to ignore the growing potential of technology to alleviate or minimise the effect of the disability.

Geoff Busby



Mark Bosanquet-Bryant was in the RAF at 19. On holiday he dived into a shallow lake, breaking his neck and leaving him totally paralysed from the neck down. However, with Headstart technology and a Mac he now runs his own DTP business.

IT COULD BE YOU

Carpal Tunnel Syndrome is a condition that causes painful and weak wrists. It's caused by repetitive wrist action, which includes typing. If you spend a lot of your day typing, take regular short breaks.

NEXT ISSUE

In the final part of this series next issue, we discover technologies that help people with mental handicap or cognitive disabilities, and also look at the future for computers and the disabled, including devices that enable you to control your Mac just using your mind. Honest! I've tested the prototype.

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Perf Presentation kit (V/Out)	199	Performa MPEG Solution	175	FM Tuner	59
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Powerbook 190cs 8/500	1129		1580
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Powercache 40MHz & CoPro	129		
SE/30			
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Powercache 40MHz	117		
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Quadra			
Image 040	519		
Quad 040	324		

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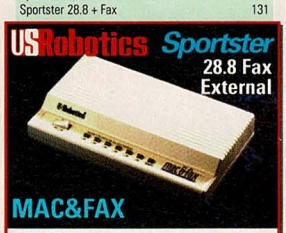

FEATURES

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CASIO			
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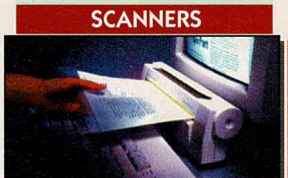

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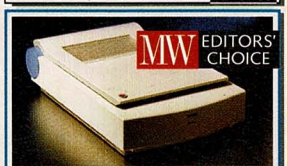

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* Interpolated

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AGFA The complete picture.

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DeskJet 1600CM	1219	DeskWriter Colour Kit	28

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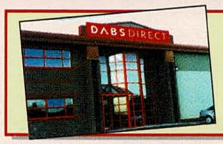

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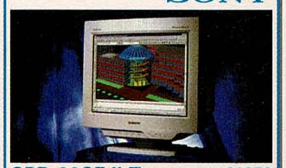

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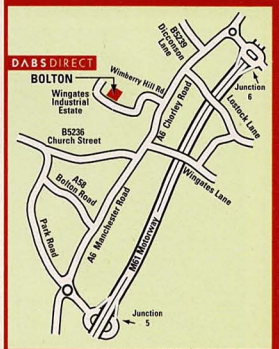

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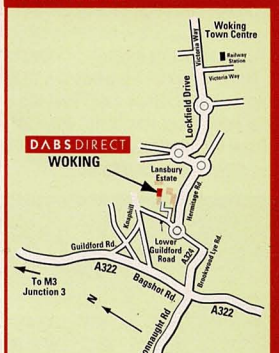

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Change your images

Rod Lawton takes the bite out of bitmaps and the, er... vitriol out of vectors in the second part of our guide to graphics formats. This month: image conversions.

The source of your files will be a pretty good guide to the amount of trouble they'll give you – if any. A lot will depend on whether you are in contact with the person who created the file, and whether they can go back and save it in a different format.

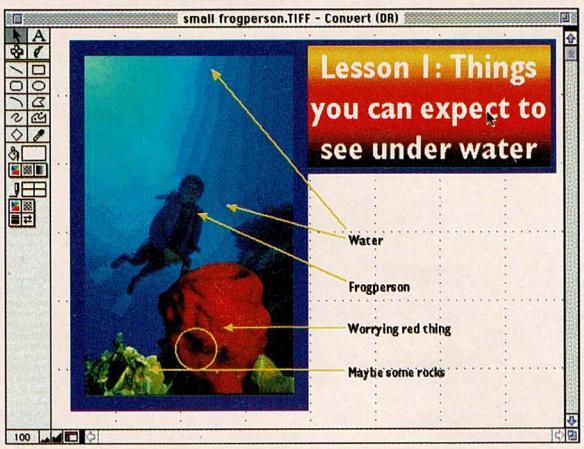
If possible, make sure you get the file in a standard rather than proprietary format. For example, an *Illustrator* document isn't much use if you only have *FreeHand*, but *Illustrator* will happily export EPS files, which *FreeHand* can read. You won't always be about to contact the original designer, of course, but fortunately most people are clued-up enough to choose a 'standard' format in the first place.

You will also have to watch out for font usage. This isn't a problem with bitmaps, because saving a file in a bitmap format automatically rasterises any vector data in the original. However, if the file is in PICT or EPS format and contains text, be very careful. If its creator has thought ahead, they'll have used common fonts, such as Helvetica or Times, in illustrations that are likely to be used by others. If the graphic contains a more obscure font, you'll either have to install that font, or hope your Mac has an equivalent that's near enough in size and proportions for labels and descriptions to stay correctly aligned and flow properly from one line to the next.

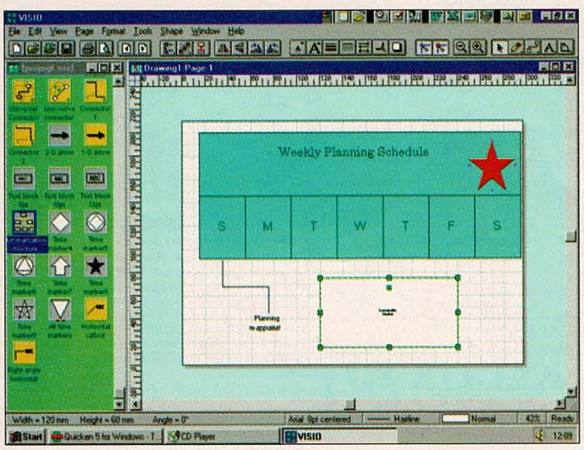
If you're dealing with a PICT file, you can always open it and edit the text manually, substituting your own fonts and re-aligning the text where necessary. However, you don't have this option with EPS files. Saving in EPS format is a one-way operation, and once you've done it, you can no longer edit the original vector outlines and shapes. However, *FreeHand* and *Illustrator* do enable you to change type into outlines, thus making them part of the vector data. This is the safest option of all, provided the file's owner has thought of it or you can contact them to arrange it.

Actually, there is one way of editing EPS files – and that's to use *Photoshop*. When you open an EPS file with this application, the PostScript data is rasterised into a high-resolution bitmap, which you can then edit like any other bitmap graphic.

Bitmap files which originated on the Macintosh don't pose many problems. Watch out for colour PICTs if you're preparing a document for four-colour printing. Most separate into their component colours correctly, but some don't – it all depends on the application that created them. TIFFs are much more reliable, and you can use *GraphicConverter* to open just about any bitmap image and convert it to a TIFF.



Bitmap images that originate on another Mac will pose you few problems, but watch out for images that contain vector information. This diagram, created in *ClarisWorks*, contains a bitmap image, fonts and vector data (the picture frame, heading box and graduated tint). Since this was done in *ClarisWorks*, these contain QuickDraw data. Your Mac won't have any problems with it, nor will your printer, but PostScript applications and output devices may choke on QuickDraw vector data. For DTP, always use a PostScript illustration package, such as *FreeHand* or *Illustrator*.

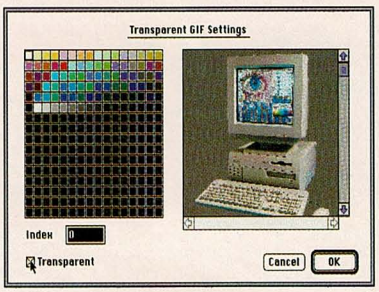


PC owners can also create vector-based diagrams using programs such as *Visio*. However, is it possible to successfully transfer complex vector information from the PC to the Mac? The EPS format is the most reliable, if your specific PC application supports it, but *GraphicConverter* may also be able to cope with the more common WMF format. Alternatively, you could just save the diagram in a much safer bitmap format...

Easy PC?

Swapping images between platforms is where things get harder. However, there is common ground between the Mac and the PC.

The PC has three bitmap formats.



The GIF file format is used extensively on the Internet because it makes it easy to 'minimise' colour tables down to 8-bit colour, and because you can make selected colours transparent for a cutout effect.

The most common is PCX, but there is also the standard Windows bitmap format, BMP. Mac applications can load BMPs as if they were PICTs, but many can't handle PCXs. If you get a PCX file, convert it to a PICT using *GraphicConverter*.

TIFF is the PC's third and most 'professional' bitmap format. It's the one used for DTP and any serious image manipulation, and this type of file will transfer safely onto the Mac. It isn't a good idea to use PC TIFFs 'raw' in DTP applications, though – pass them through *GraphicConverter* or *Photoshop* first.

The PC has three further meta-file formats (meta-files can mix vector and bitmap data). CGM is the oldest and least reliable. If you have a choice, avoid it. If you don't, *GraphicConverter* will rescue the bitmap representation (this mirrors the vector information for display purposes, but obviously isn't scalable). We don't know of any Mac application which will safely extract the vector data.

The newer WMF (Windows Meta-

QUICKDRAW OR POSTSCRIPT

The Mac calculates the maths for vector images using its own QuickDraw system, which also converts these images into bitmaps for printing and display. This is fine for low-end applications, but QuickDraw is too crude for professional desktop publishing and it isn't standard in the publishing industry. DTP applications use PostScript maths to handle vector images and fonts and output PostScript data for printing. PostScript illustration packages, such as *FreeHand* and *Illustrator*, also output the industry-standard EPS file format, which contains the image's PostScript data and a low-resolution bitmap representation for viewing purposes.

FILE TYPES

This is a list of the file formats you're most likely to meet, the situations where you're most likely to encounter them, the Mac applications you can use to open them and the best format to save them in subsequently.

■ **BMP (PC)**
Standard Windows colour bitmap format. Can usually be used 'raw' by Mac graphics applications.
Open with: any graphics package.
Save as: PICT or TIFF.

■ **PCX (PC)**
Universal PC bitmap file format. Needs to be converted before most Mac applications will use it reliably.
Open with: *GraphicConverter* or *Photoshop*.
Save as: PICT or TIFF.

■ **PhotoCD (Mac, PC)**
Growing more common, especially among clip-art libraries and photo agencies. Not supported directly by many Mac applications.
Open with: *Photoshop*.
Save as: PICT or TIFF.

■ **TIFF (Mac, PC)**
Sophisticated bitmap format that can handle millions of colours, different resolutions and various colour models. Most reliable cross-platform format.
Open with: *GraphicConverter, Photoshop*, other Mac paint packages.
Save as: PICT (if you must), TIFF.

■ **GIF (Internet)**
An 8-bit (256-colour) compressed bitmap format used extensively throughout the Internet. Can't be imported by many low-end graphics packages.
Open with: *GraphicConverter* or *Photoshop*.
Save as: PICT or TIFF.

■ **JPEG (Mac, PC, Internet)**
Compressed bitmap format used extensively for compressing photographic images. Can't be imported by many low-end graphics packages.
Open with: *GraphicConverter* or *Photoshop*.
Save as: PICT or TIFF.

■ **Neochrome, Degas (ST)**
The Atari ST's two native 16-colour bitmap image formats. Crude, dated and rarely seen.
Open with: *GraphicConverter*.
Save as: PICT, TIFF.

■ **IFF, ILBM, HAM (Amiga)**
The Amiga's native bitmap image formats, still seen in the graphics and 3D modelling professions. They are quite sophisticated, and may contain 24-bit images.
Open with: *GraphicConverter, Photoshop*.
Save as: PICT, TIFF.

■ **CGM (PC)**
The older of the PC's two low-end meta-file formats. The vector information can't be recovered reliably, but the bitmap rendition can.
Open with: *GraphicConverter*.
Save as: PICT, TIFF.

■ **WMF (PC)**
A newer and probably more robust rival to the PC's CGM format. Both vector and bitmap data information can be transferred.
Open with: *GraphicConverter*.
Save as: PICT, TIFF (bitmap only).

■ **PICT (Mac)**
The Mac's universal low-end file format. Can contain vector and/or bitmap graphics, and is the standard output format for low-end graphics packages.
Open with: any Mac paint/drawing application.
Save as: PICT, EPS (high-end only), TIFF (bitmap only).

■ **EPS (Mac, PC)**
Encapsulated PostScript – the one vector format that enables you to carry vector information reliably from the PC to the Mac and vice versa.
Open with: *FreeHand, Illustrator, Photoshop* (rasterised as high-res bitmap).
Save as: EPS.

File) format is more reliable. *GraphicConverter* normally extracts a bitmap version, but you can use the **Convert More** option to preserve the vector data and output a vector-based PICT file. From our experience, though, we'd regard any WMF conversions with the gravest suspicion. If it works, excellent – but do check the image thoroughly, making sure that the vector data has been kept and that the object alignment is correct.

The third format, EPS, is the most reliable way to transfer vector data from a PC to a Mac. You should use a PostScript illustration package, such as *FreeHand* or *Illustrator*, to open the file and convert it to a Mac EPS (this isn't always necessary, but it does add an element of reliability). *Photoshop* will open EPS files, but it rasterises them into high-resolution bitmaps, as we've noted earlier, losing the vector data.

Caught in the Net?

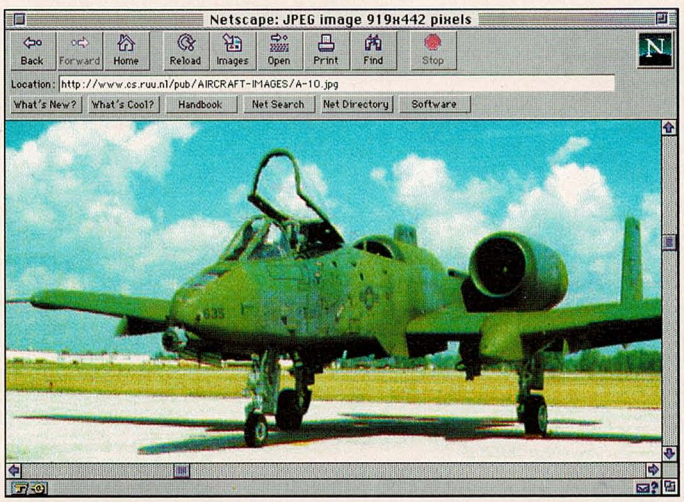
You won't find PICTs, bitmaps, TIFFs, EPSs or any of the other file formats you're used to on the Internet (except in compressed archives – more on this shortly). This is because both space and download times are very important, so special formats are used to keep file sizes to a minimum.

The most common Internet file format is GIF, a compressed 256-colour bitmap format. It's very convenient for the Net because it's easy to minimise the colour palette so files are small, and therefore so are download times.

However, being a 256-colour format, GIF isn't very good for photographic images, where you really need to display thousands or even millions of colours. The bitmap JPEG format is often used instead (or as well). JPEG can reproduce millions of colours and uses sophisticated 'lossy' compression techniques (where small detail is sacrificed for large compression ratios) to keep file sizes to a minimum. Both are supported by high-end Mac applications, such as *Photoshop*, but less consistently by entry-level programs. *GraphicConverter* can handle both, and is also excellent for taking bitmap images in other formats and converting them into GIFs for use on the Net. *ClarisWorks* won't import JPEGs and often chokes on GIFs.

Because these two file formats use standard compression systems which are built into the applications designed to view them, you can load them directly. However, other graphics may have been compressed by other soft-

Continued on next page



Web sites offering graphics that you can download usually provide them in JPEG format – this allows for maximum compression, while still providing you with full photographic quality images (containing thousands or millions of colours).

The most reliable way to swap graphics files across platforms is to make sure both parties use the same software. The PC version of *Photoshop* obligingly supports the Mac PICT format, for example, while the Mac version supports PCX and other PC formats.

Standard bitmap formats such as TIFF, PICT and PCX store precise bitmap detail and colours, but you do pay for it – something that's immediately obvious when you consider file size. This PICT file weighed in at 842K.

GIFs are small files, but have reduced colour information – the format is restricted to 256 colours, so dithering and colour banding may occur. Solid colours come out well, but shading doesn't. This GIF version takes up only 179K.

Using JPEGs, fine detail may be lost, but photo images come out very well, thanks to the preservation of all the colour information. This JPEG version of the 842K original is only 153K, but can you tell the difference?

ware and stored as archives. For example, files with the suffix .hqx are 'binhexed' archives, and you need a program such as *StuffIt Expander* to convert them (more about this in the next instalment). These archives may contain TIFFs, EPSs or other graphic files, which you can then deal with in the normal way. (See the box below.)

You may also download a file with the suffix .zip. This means it originated on a PC, and you will need a Mac version of the PC-based Zip compression software to decompress it. Fortunately, the *Expander Enhancer* available for *StuffIt Expander* will do the trick.

Any more?

You might occasionally come across graphics from either the Atari ST or the Commodore Amiga. The venerable ST is hardly an artist's tool, because its architecture limits bitmap graphics to 16 colours. There are no vector file formats to worry about and the two most common bitmap file formats – *Degas* and *NeoChrome* – can be handled by *GraphicConverter*.

On the other hand, the Amiga is not as dated as you might think. Although the platform is past its heyday, its graphics hardware and software is still quite sophisticated and used extensively by many graphics professionals. You may therefore encounter ILBM and HAM files on your travels. Both are bitmaps, and ILBM can now handle 24-bit colour. *Graphic Converter* will happily cope with both these file types. *Photoshop* also supports these formats, and may prove the best option, especially if you intend to do any further image editing.

In the next issue, we'll be looking at the problems that are all too frequently associated with file compression and also showing you how you can get the best performance from *GraphicConverter*. **MF**

BITMAPS AND VECTORS...

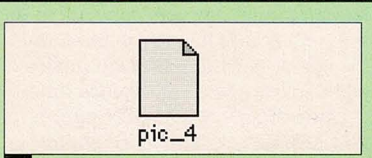
The difference between bitmap and vector files is very straightforward. A bitmap file is simply a list of every element – usually pixels – that are used to compose your image. Every element of the picture is recorded and there is no link between elements. Vector based files are different altogether. Each picture is described by a series of equations, used to define every line, curve and fill. However you choose to print vector files, they are always reproduced at the highest possible resolution, because they are not constructed out of a limited number of elements. Regardless of which type of format you use, your printer shouldn't have any difficulty printing it out.

RASTERISING

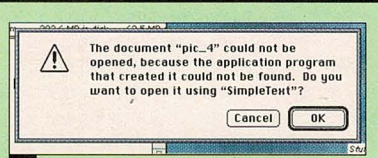
A rather fancy word to describe something rather simple. Vector images are based on mathematical calculations, but monitors and printers can only handle a grid of dots – a bitmap image. Rasterising is the process whereby your Mac (or printer) converts the mathematical information into a grid of pixels or dots, for display or printing. Every time your Mac updates a drawing, it's rasterising the vector data into the bitmap representation your monitor displays.

HERE'S ONE WE PREPARED EARLIER

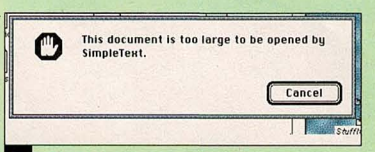
Here at MACFORMAT, we receive all sorts of strange files from readers or from the Internet. This is a true story – only the names have been changed to protect the innocent...



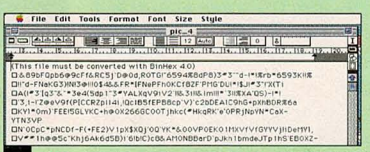
1 An unknown document arrives (as a QuickMail enclosure, so we have no clues as to its origin or format). It has a generic icon, the filename tells us nothing about the format except that it is probably a graphic of some sort. Rod scoffs, Alex panics and Colin suggests *GraphicConverter*. It returns an error message saying that the file is in an unknown format.


The document "pic_4" could not be opened, because the application program that created it could not be found. Do you want to open it using "SimpleText"?
Cancel
OK

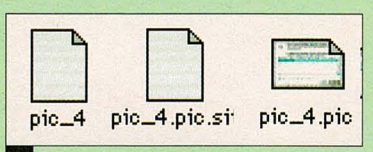
2 Lindsay checks its file type. (He uses *ResEdit*, but *File Buddy* would do just as well – or even *Get More Info*, a handy Extension which gives you file type and creator information when you hold down the **[option]** key and select **Get Info** from the **File** menu.) The file type turns out to be 'TEXT', creator '????' – so let's try simply double-clicking. Can't hurt...



3 The file's creator can't be found (no surprise there), so we're given the option to try *SimpleText*. Unfortunately, though *SimpleText* can open quite large graphics files, it can only handle text files up to 32K in size, so we get an error message that leaves us none the wiser. But all is not lost: we simply launch a more powerful word processor (we use *Nisus*, but something like *Word* will do the job) and then use the standard **Open** dialogue.



4 *Nisus* succeeds in opening the file. It is only six pages long, but often your word processor will interpret some character or other as a 'new page' command and the document will seem to be hundreds of pages long. This time we're lucky. What's more, though the file itself is gibberish (as graphics files tend to be when opened in a word processor), there's a dead useful line of intelligible text at the very beginning which gives us a bit of a clue as to what to do next.



5 You can convert files from BinHex using several utilities, but the easiest is *StuffIt Expander*. Drop your file onto the *Expander* icon and your file is not only un-BinHexed but also decompressed (it turns out the document we've been sent is also compressed). The filename extension tells us what format of file we're dealing with, so opening it is now straightforward. Even without that, the next step would be to try *GraphicConverter*, which can handle most of the formats we encounter

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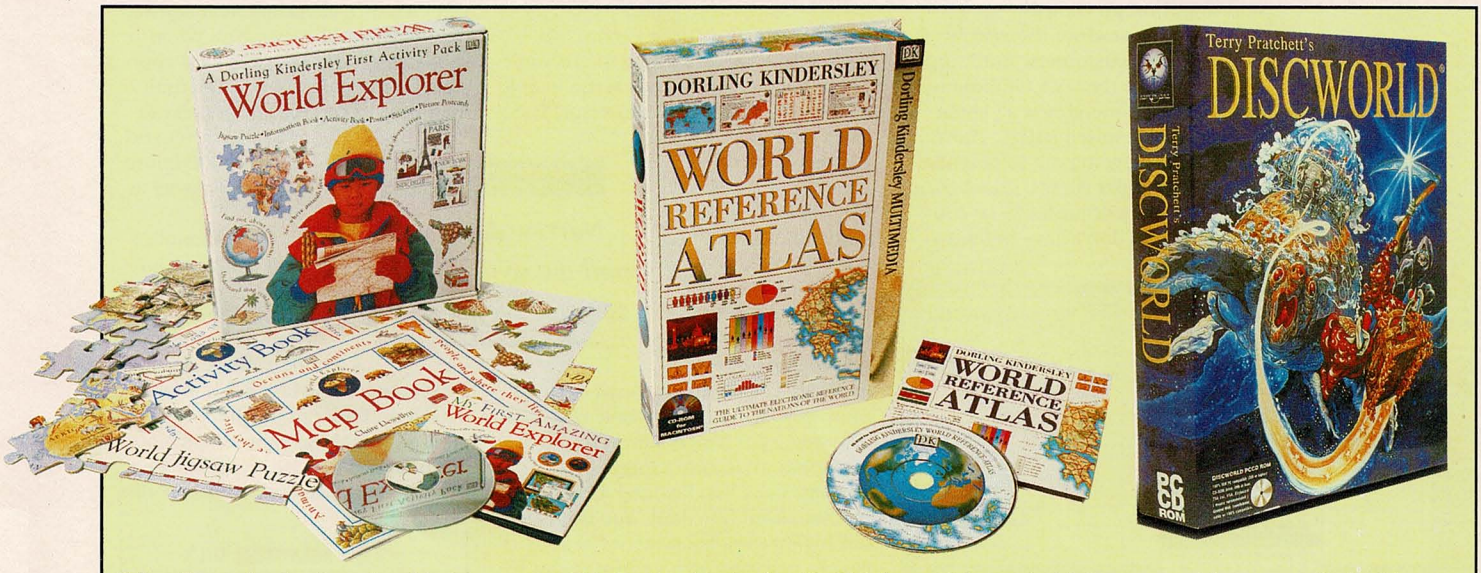

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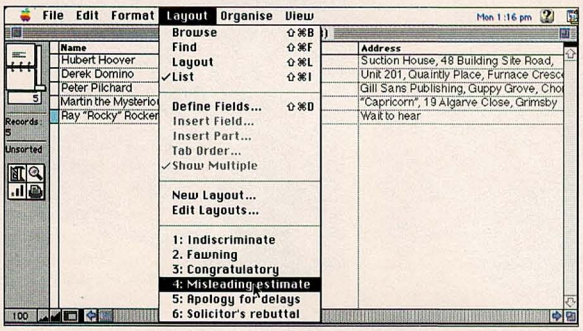
Don't forget to write

Your database isn't just for storing information – it's there to be used, too. Rod Lawton explains how you can use it to automate that tiresome regular correspondence, then make it sparkle...

Database designers have a knack of making useful concepts sound about as interesting as a stationery catalogue. The term 'mail-merging' conjures up images of office workers plodding through complex set-up procedures to produce thousands of dull letters for customers. Borrr-ing.

But honestly, there's a bit more to it than that. Mail-merging is all about producing customised letters. These letters could be going out to potential customers, regular clients, members of a club or society or professional contacts. And they don't have to follow the usual bland format, where the same anonymous piece of text is sent to everyone, under the guise of a 'personalised' letter.



Do you have an organised structure for developing business contacts? For example: first contact, follow-up call, personal visit... and so on? If so, you can have as many different standard letters as you like and have them chosen automatically by your software when you do your monthly mail-out.

But what does it all mean?

Mail-merging is usually carried out with a data file containing the records of the people you want to write to and a form letter in a word processor. The latter contains spaces where the data in the other file will be entered automatically by your software.

Mail-merging is normally used for straightforward name-and-address mailings – sending out copies of the same message across a whole city, for example – but it's capable of so much more than that. Don't forget that databases can handle time, date and mathematical functions. You can carry out highly complex searches of your data to narrow down your mail-out so that it can be targeted very effectively.

Narrow down your mail-out so that it can be targeted very effectively

For example, instead of sending a reminder letter to all your customers who are late paying invoices, you could limit your search to those who owe you more than £100, so as not to waste your time by chasing petty amounts. Or you might want to chase only those companies who've been late payers in the past (your database can include a checkbox field labelled 'Troublesome clients'). And when canvassing votes for your local council election campaign, you could limit mail-outs to specific postal areas so that you don't end up with 500 house calls to make all at once.

And remember that databases are not restricted to short chunks of data. If you keep records of conversations and agreements using text fields in your database, these can be quoted in your mail-outs, making your letters more personal and concise – you can stop them looking like form letters at all!

The missing link

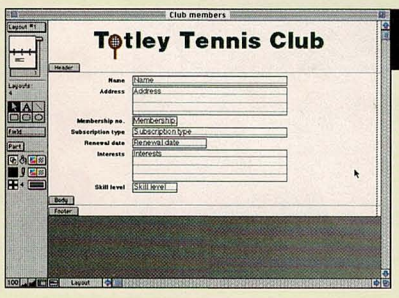
To carry out a proper mail merge, you need two specially-matched applications. The data and form letter files are open at the same time, and a letter

KNOW THE FORM

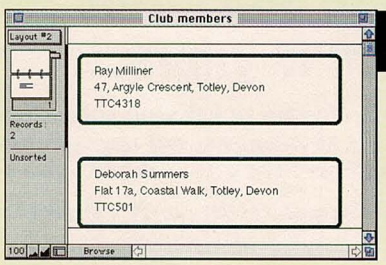
'Form letter' is the rather nondescript term used in business to describe standard letters that you send out to many different people. Form letters contain gaps so that the mail merging software can insert people's names, addresses and particular foibles for that 'personal' touch.

FORM LETTERS IN FILEMAKER PRO

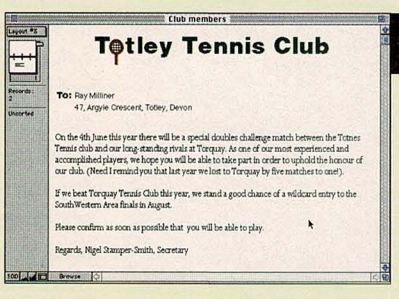
Here's how you could create custom layouts in *FileMaker Pro 2.1* for correspondence with the members of a tennis club:



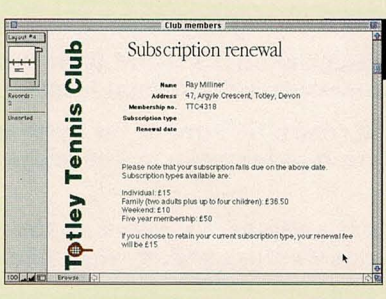
1 This is your basic database, which contains all the information you store about your members. The various layouts you subsequently create use whichever fields are necessary.



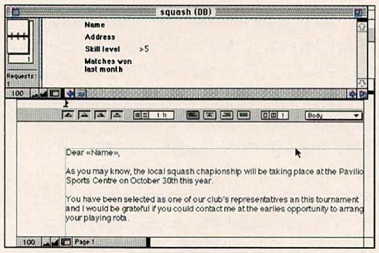
2 Creating mailing labels for sending out club newsletters is easy. Once you've checked the size of your labels, you can design a layout consisting purely of names, addresses and member codes.


Club members
Totley Tennis Club
To: Ray Milliner
47, Argyle Crescent, Totley, Devon
On the 4th June this year there will be a special doubles challenge match between the Totnes Tennis club and our long-standing rivals at Torquay. As one of our most experienced and accomplished players, we hope you will be able to take part in order to uphold the honour of our club. (Need I remind you that last year we lost to Torquay by five matches to one!).
If we beat Torquay Tennis Club this year, we stand a good chance of a wildcard entry to the SouthWestern Area finals in August.
Please confirm as soon as possible that you will be able to play.
Regards, Nigel Stamper-Smith, Secretary

3 You can target news about special events using the information stored about your members. This mail-out is only for strong doubles players (located using fields for 'interests' and 'skill level').


Club members
Totley Tennis Club
Subscription renewal
Name Ray Milliner
Address 47, Argyle Crescent, Totley, Devon
Membership no. TTC4318
Subscription type
Renewal date
Please note that your subscription falls due on the above date.
Subscription types available are:
Individual: £15
Family (two adults plus up to four children): £36.50
Weekend: £10
Five year membership: £50
If you choose to retain your current subscription type, your renewal fee will be £15

4 When users are prompted for their subscription renewals, you can let them know about the membership schemes available and, using your member records, remind them of the amount due.


squash (DB)
Name
Address
Skill level
Matches won last month
Dear «Name»,
As you may know, the local squash chapionship will be taking place at the Pavilio Sports Centre on October 30th this year.
You have been selected as one of our club's representatives an this tournament and I would be grateful if you could contact me at the earlies opportunity to arrang your playing rota.

Do you run a sports or social club? If you arrange an event or a special offer, you can send a mail-out only to those likely to be interested, with extra details targetted specifically to each person.

is printed for each record in the data file, using that record's information.

Some word processors, though, can carry out mail merges without being linked to a database in this way. *MacWrite II*, for example, uses a special 'merge file' document in a format that many database applications, including *FileMaker Pro 2.1*, can export in.

What, no software?

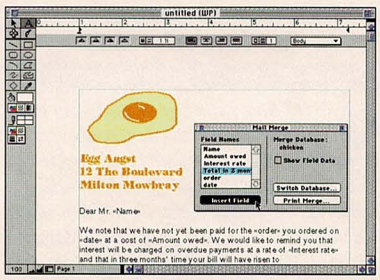
But what if your word processor can't link with a database program and doesn't have a mail-merging capability either? Well, in this instance you don't use it at all. Instead, provided your database application can handle different layouts, you can create your form letter (or several form letters) in your database application instead:

1. Create your database with all the fields it will need
2. Design the data entry layout
3. Design your form letter
4. When you want to carry out a mail merge, first select the relevant records, then print!

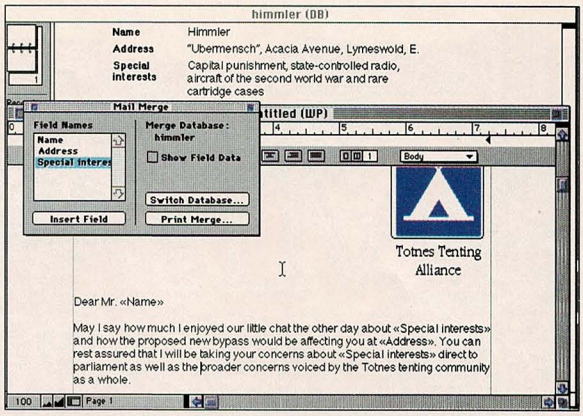
The advantage of this method is that you don't need to use a separate word processing application and a fiddly file linking or exporting system. The disadvantage is that database applications don't have the text formatting tools of fully-fledged word processors, and you're likely to find multi-page letters very complex to set up. And while a word processor with mail-merge capability can shuffle up the text in a paragraph according to the length of the data it imports from the data file, when you set up a layout in a database you have to allow a fixed length for the data. In practice, this means that a word-processor-based mail merge can seamlessly embed data within paragraphs, but form letters designed as another database layout can't – you have to be a little bit more canny with the design.

Can you do anything?

With the design flexibility you now get even in low-cost database applications – plus sophisticated search functions, calculations and summaries – there's no longer any such thing as a 'simple' flat-field database – one that stores your information in individual records. But despite all the power at your disposal, which we've explored in this series, flat-field databases do have a major limitation: information is tied to the records in which it's stored. Indeed, you could say it's sealed within individual records.


untitled (WP)
Mail Merge
Field Names
Merge Database: chicken
Show Field Data
Switch Database...
Print Merge...
Insert Field
Egg Augst
12 The Boulevard
Milton Mowbray
Dear Mr. «Name»
We note that we have not yet been paid for the «order» you ordered on «date» at a cost of «Amount owed». We would like to remind you that interest will be charged on overdue payments at a rate of «Interest rate» and that in three months' time your bill will have risen to

Make them pay! If your company's customer database is set up with the necessary fields, you can send out a payment reminder letter to a very carefully-chosen list of customers – for example, only those who owe you more than £100 and have been slow payers in the past.


himmler (DB)
Name Himmler
Address "Ubermensch", Acacia Avenue, Lymeswold, E.
Special interests Capital punishment, state-controlled radio, aircraft of the second world war and rare cartridge cases
Mail Merge
Field Names
Name
Address
Special interes
Merge Database: himmler
Show Field Data
Switch Database...
Insert Field
Print Merge...
titled (WP)
Totnes Tenting Alliance
Dear Mr. «Name»
May I say how much I enjoyed our little chat the other day about «Special interests» and how the proposed new bypass would be affecting you at «Address». You can rest assured that I will be taking your concerns about «Special interests» direct to parliament as well as the broader concerns voiced by the Totnes tenting community as a whole.

Your database can include not just contacts' main details, but also notes about their interests or conversations you've had, all of which you can use in letters.

For example, if you use a database to record your home accounts – with a record for each transaction – how would you go about creating a layout that displayed the date in one column and your bank balance on that date in another? You can't. It's a simple matter to sort your transactions by date, even though you may have entered them willy-nilly; but to calculate 'today's' balance you need to refer to 'yesterday's' – and that's something you simply can't do. Calculation fields in flat-file databases can only refer to fields in the same record.

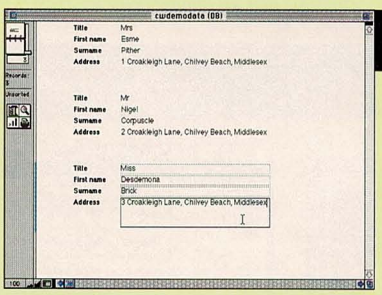
This is where you need a relational database, an application that can refer to information in other records – even other database files – on the fly. *HyperCard* is perhaps the oldest example, while *FileMaker Pro 3.0* is clearly the newest. And that's what we'll be looking at next issue... **MF**

WINDOWS – BRILLIANT

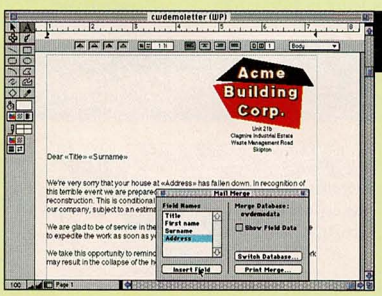
No, not the operating system beloved of PC owners, but the clear cellophane panels in self-seal envelopes. Make sure the address on your form letters aligns with this window and save yourself hours of tedious envelope-addressing.

MAIL-MERGE WITH CLARISWORKS

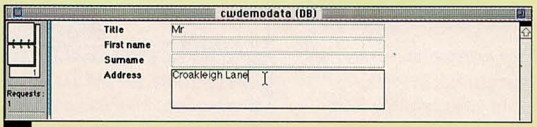
Integrated software suites make mail merging easy. Here's how to set up a mail merge in *ClarisWorks 4:*



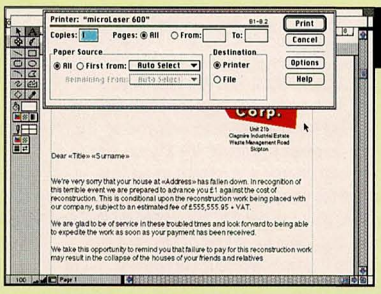
1 Set up your database and enter your data. It doesn't matter how the fields are arranged, or whether there are far more here than you'll use in your finished letters.



2 Set up a form letter and use the **Mail Merge** palette (accessed from the **File** menu) to quickly and simply choose the data fields you want to insert, and where you want to insert them.



3 If you need to, carry out a search on your data to limit the letters printed to specific individuals – in this case, males living in Croakleigh Lane. You can target specific types of people really precisely using these searches. If you run a computer firm, you can make sure you don't send details of programs that run only on PCs to your Mac-owning clients, making your whole outfit more professional.


Printer: "microLaser 600"
Copies: 1 Pages: All From: To:
Paper Source
All First from: Auto Select
Destination
Printer
File
Print
Cancel
Options
Help
Corp.
Dear «Title» «Surname»
We're very sorry that your house at «Address» has fallen down. In recognition of this terrible event we are prepared to advance you £1 against the cost of reconstruction. This is conditional upon the reconstruction work being placed with our company, subject to an estimated fee of £555,555.95 + VAT.
We are glad to be of service in these troubled times and look forward to being able to expedite the work as soon as your payment has been received.
We take this opportunity to remind you that failure to pay for this reconstruction work may result in the collapse of the houses of your friends and relatives

4 Click on **Print Merge** in the **Mail Merge** palette. You will now get a personalised letter addressed to each of the people in your database who match the search criteria.

DATA DEMO

If you're interested in taking a closer look at the latest version of one of the most popular database applications available, then check out our demo of *FileMaker Pro 3.0* on the Cover CD of MACFORMAT 39. If you missed this, turn to page 115 for more details about how to get hold of a copy.

MAC ANSWERS

Grab your torch and Thermos flask and follow our intrepid expert Lindsay Bruce on a mystery tour into the deepest, darkest recesses of your System Folder.

Hello there; welcome to our humble troubleshooting section, MacAnswers, where all your problems can be solved. Over on your right is the Extensions folder, where Apple keeps all the really clever bits of software; and on your left is the Control Panels folder, where your Mac keeps all the buttons that say 'Don't touch under any circumstances – and we really, *really* mean it.' Now, if you'll just step onto the peripheral bus, we can be off on the tour proper. Mind the step, and please take your litter home with you.

If you've got a problem (excluding car trouble or anything to do with plumbing) fill in the form on page 81 and send it in, or e-mail us at **macformat@futurenet.co.uk** with MacAnswers in the subject title. Sorry, but we can't reply personally or answer technical questions over the phone, because this tour is non-stop all the way to the processor. Don't forget to fasten your seat belt...

The forgetful Mac

PRAM PROBLEMS

Q *Every time I start up my LC from cold I have to change the monitor colour depth from black-and-white back to 256 colours. Similarly, I have to keep resetting the clock, which is always set in 1956 when I start up. If I restart the Mac the settings are kept, but if I shut it down they change back. I've tried* Norton Utilities, *rebuilding the Desktop, zapping the PRAM, and restarting with Extensions turned off – all to no avail. I suspect this may be a hardware problem. Is there some macro or subprogram that I could run on Startup to put the correct settings in the* ***Date & Time*** *and* ***Monitors*** *Control Panels? I don't want to pay a big repair bill for a Mac that's only worth £400.*

Paul Leveson
Boscombe, Bournemouth

A Your suspicions are absolutely correct; it is a hardware problem. The PRAM (Parameter Random Access Memory) stores the settings for some of your Mac's Control Panels, including the **Date & Time** and **Monitors** settings. Normally the PRAM is powered from the mains, but a small battery on your Mac's motherboard preserves the contents of the PRAM while your Mac's switched off. After a few years (the length of time depends on how much you use your Mac), the PRAM battery runs out of juice and your Mac automatically reverts to its factory settings, which are stored in the ROM (Read Only Memory). The cure is simple – get the battery replaced by an Apple Authorised Repair Centre. The work should only cost you around £20, depending on the type of Mac you have.

If you don't have the time or opportunity to fit a new battery, you could partially solve the problem with a macro. That's a series of instructions saved as a file that you can activate at the touch of a button. You could use an AppleScript script to set the **Monitors** Control Panel to the correct number of colours, although you can't do the same for **Date & Time.** Without a functioning PRAM, your Mac hasn't a clue what the correct time is when you start up, and no software utility or macro can help you out.

If you have System 7.5 on your Mac, you'll already have AppleScript. If it's missing, use your original System disks to carry out a custom installation of AppleScript by carefully following the on-screen instructions. If you don't own System 7.5, the full package is available from AppleCentres and mail order dealers for around £75.

To be invisible or... not

HANDLING FILES

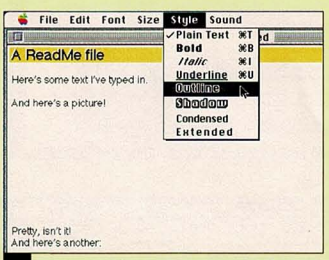
Q *Is there any Extension that modifies the Finder, enabling you to make invisible files and folders visible? Does the*

WORTH A THOUSAND WORDS AND ALL THAT...

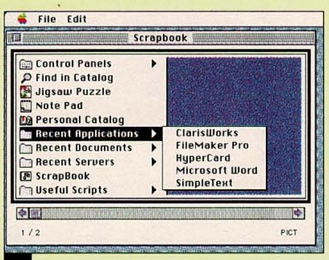
Q *I want to create a ReadMe file and put pictures in it, but I can't work out how to paste pictures into* SimpleText. *Also, how do I make my ReadMe into a read-only file, giving it that little newspaper icon that you often see?*

David Knipe
Ealing

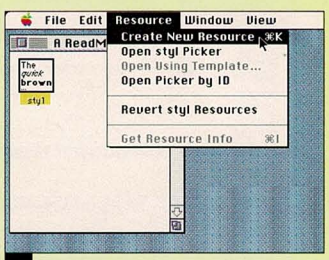
A This is a surprisingly fiddly process, but it's not difficult. You'll need *SimpleText* (which came with your Mac) and *ResEdit* (on the Cover CD inside the Resources folder). Be very careful with *ResEdit;* don't work on any of the System files or any other important documents. It's best to work only on a copy of a file, and make sure no other applications are running.



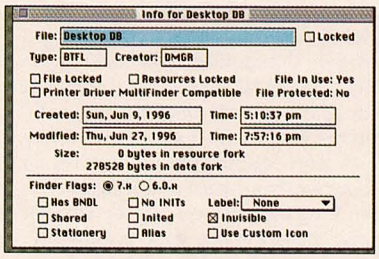
1 Open *SimpleText* and type in your text, typing the keyboard combination **[option] [space-bar]** wherever you want your graphics to appear. It's a good idea to then add several line returns to provide space for your graphic where you know you're going to need it. You could do this later, but it will save a bit of hassle if you can do it now. Save your file and quit out of *SimpleText.*



2 Create your graphics as PICTs. Screen grabs taken by hitting **[command] [shift] 3** will be PICTs by default, but if your graphics are some other format, you can convert them using *GraphicConverter,* which is also available on the Cover CD. Paste them into the Scrapbook so you've got easy access to them.



3 Launch *ResEdit* and use it to open your *SimpleText* document, simply by using the standard **Open** dialogue box. You should get a window with one resource for the document. What you want to do is create a new resource to hold the pictures that go with it, so go to the **Resource** menu and select **Create New Resource.**



You can use *ResEdit* (above) or *FileBuddy* to make invisible items show up in the Finder. It may not always be such a good idea though... See 'To be invisible or... not'.

Finder enable you to move files instead of copying them from one media to another? Copying stuff to another disk always makes a duplicate, rather than removing the original item.

Kutt Nünepuu-Kiik
Tallinn, Estonia

A Your Mac hides some files from you by making them invisible in the Finder. Files that you don't normally see include the Desktop files, icon files which give folders custom icons, and some Preference files. It also applies to some folders that Apple doesn't want you poking around in. Making these items visible means that they can then be moved, renamed, or deleted – something your Mac may not take kindly. There isn't a commercially available System Extension that will automatically make all invisible items visible, and we're not aware of any shareware ones. However, you can make individual items visible using *ResEdit* or *FileBuddy*. Thing is, we're not sure why you'd want to do this. If you start moving or deleting these files and folders, then your Mac won't be able to find essential files and all hell will break out.

In answer to the second part of your question, copying files and folders from one disk to another is a non-destructive process, meaning that your files stay in their original location as well as appearing at the new location. This ensures that you don't accidentally delete files you need. There isn't a way to delete the original file automatically in the Finder, and we don't know of any Extension that will do this for you. Having said that, again, we're at a bit of a loss as to why you might find this useful. It's just as easy to drag the original to the Wastebasket and delete it yourself – that way you also have the peace of mind of not deleting a file you need.

Incidentally, if you want to copy a file from one window to another on the same disk – for instance on your hard drive – don't select **Duplicate** from the **File** menu in the Finder. Instead, hold down **[option]** and click and drag the document to its new location. This duplicates the file into another folder without moving the original. It also saves you having to delete the word 'copy' from the end of the file name.

Gimme more!

RAM ALLOCATION

Q *I have a Centris 650 with 12Mb of RAM running System 7.1, and have a couple of questions:*

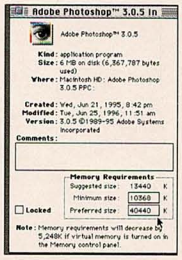
1. If I allocate 20Mb of RAM to either KPT Bryce *or* Adobe Streamline *in the* ***Get Info*** *box, when I look in the* ***About This Macintosh...*** *box they are only using just over 11Mb of RAM. Why?*

2. When I try to use the gradient strip in Texture Explorer *– part of the* Kai's Power Tools 3.0 *plug-in for* Photoshop *– my Mac always crashes, throwing up an error with a number between 1 and 15. I have tried allocating more memory, starting up with Extensions turned off, and using* ***Virtual Memory.*** *I even tried reinstalling the application. Is this a problem with my Mac or some sort of software glitch?*

Bob Davey
London

A 1. Although the **Get Info** box enables you to allocate as much RAM to a program as you'd like, the program cannot use more RAM than your Mac physically has available. The magical figure of 11Mb comes from your total of 12Mb of RAM minus 1Mb or so for System 7.1. The only way to get a program to use more memory is either to buy more RAM for your Mac or to turn on **Virtual Memory,** enabling you to use a portion of your Mac's hard disk space as memory. However, **Virtual Memory,** which you'll find in the **Memory** Control Panel, is really designed to enable you to have more applications open at once and switch between them, not to allocate 20Mb or more to a single program. It's also very slow in comparison with real memory. You could also use *RAM Doubler,* which uses a slightly faster kind of virtual memory than Apple's built-in system, as well as improved memory management, governing the way your Mac allocates memory to applications.

2. Error types 1 to 15 are almost all memory-related errors. This particular problem suggests your Mac doesn't have enough memory. Your problem is that you have to run *Adobe Photoshop* – a very memory-hungry program in its own right – in order to use the plug-ins. The plug-ins themselves have to run on top of *Photoshop;* the more plug-ins you use, the more RAM you need in total. You could try reducing *Photoshop's* memory allocation. If that doesn't work, try turning **Virtual Memory** on, restarting and increasing *Photoshop's* memory allocation in the **Get Info** box. This might sound bizarre, but it's a balancing act, ensuring that both *Photoshop* and the plug-ins have enough memory while also leaving plenty for your Mac's operating system.


Adobe Photoshop™ 3.0.5 Info
Adobe Photoshop™ 3.0.5
Kind: application program
Size: 6 MB on disk (6,367,787 bytes used)
Where: Macintosh HD: Adobe Photoshop 3.0.5 FPC:
Created: Wed, Jun 21, 1995, 8:42 pm
Modified: Tue, Jun 25, 1996, 11:51 am
Version: 3.0.5 ©1989-95 Adobe Systems Incorporated
Comments:
Memory Requirements
Suggested size: 13440 K
Minimum size: 10368 K
Preferred size: 40440 K
Locked
Note: Memory requirements will decrease by 5,240K if virtual memory is turned on in the Memory control panel.

You can allocate as much memory to an application as you like in the **Get Info** box, but the application can't use more RAM than you've physically got. See 'Gimme more!'

WHAT'S A RESOURCE?

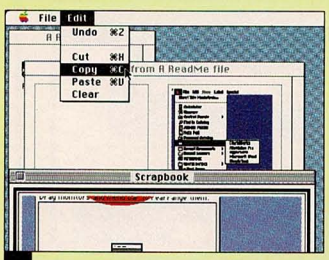
Every file on your Mac is split into two distinct parts: a data fork and a resource fork. The data fork holds things that might change on a regular basis, like text in a word processing document. The resource fork holds program elements like sounds, fonts, pictures and bits of actual program code.

Greyscale blues

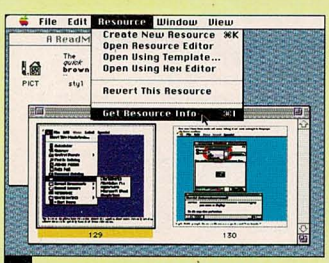
PRINTING

Q *I have a Performa 630, a Personal LaserWriter 320, and a Multiple Scan 17-inch monitor. I read your feature on*

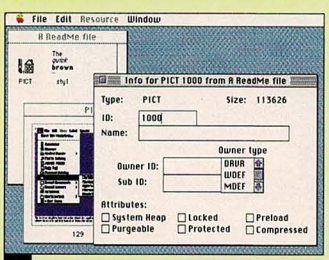
Continued on next page



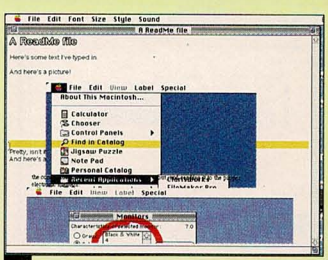
4 Select PICT from the scrolling list of resource types that appears and click **OK.** You should now get a new window opening up for your PICT resources. Open the Scrapbook and copy the first graphic for your document, pasting it into *ResEdit.* Repeat this for all your pictures – as you paste, a new resource is created for each pic automatically, so you don't have to have a destination highlighted.



5 Close the Scrapbook. In *ResEdit,* highlight the first picture you want in your ReadMe file, then go to the **Resource** menu and select **Get Resource Info.**



6 In the **Resource Info** window, change the Resource ID number of the first picture you want to appear in your document to 1000, then 1001 for the next, and so on for all the pictures, making sure you number them in appearance order. Save the file and quit *ResEdit.*



7 Open your file in SimpleText once more, and you'll see pictures pasted in where the **[option][space-bar]** keystrokes were. You may not have left enough space for pictures, so some will overlap. Simply move the cursor to where you need more space and add line returns until the text is moved clear of the pictures.

Continued on next page

printing in MACFORMAT 38 and found it interesting, but I have some questions.

1. Why doesn't greyscale blending print out as smooth as it looks on-screen when the resolution of the printer is 360 dpi and the monitor is a mere 72 dpi? On-screen it looks like a smooth blend without all the ugly dots!

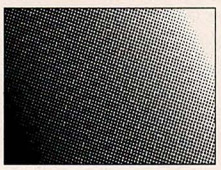
2. In the ***Monitors*** *Control Panel, the resolution of my monitor is set to 832 x 624 at 75Hz, while you say the resolution is usually 72 dots per inch. Which is it?*

Yogan Weinreich
Herrenberg, Germany

A 1. There's nothing wrong with either your Mac or your printer; the 'ugly dots' are the only way the printer can approximate a greyscale tone. While your monitor only has a resolution of 72 dpi, it can display a minimum of 256 colours – or 256 shades of grey – on-screen. Your printer, however, has only one colour – black. In order to reproduce the greyscales, the printer produces a mesh of dots that, from a distance, look like greyscale. This is called a half-tone screen. The cleverer your printer is, the more tricks it might use to simulate shades of grey – varying the size of the black dots as well as their closeness to each other, and so on – but the crucial thing is that it can print black dots only, not greys. Your monitor is displaying *real* greyscales, at least 256 of them; your printer is trying to create the optical *effect* of grey, but using only black dots. Ironically, the better your printer's resolution, the worse the banding effect can sometimes seem, because all those little black dots are being printed so crisp and... well, so *black*.

Half tone screens are used in process colour printing as well as monochrome, to simulate shades of colour. Process printing uses four colours – cyan, magenta, yellow and black (also called the Key colour, which is why process printing is known as CMYK, not CMYB). Look closely at a picture in MACFORMAT or most other magazines, possibly with the help of a magnifying glass, and you might be able to see the dots of coloured ink that give the optical effect of all the colours you can see. However, because they're printed at a much higher resolution than your LaserWriter can achieve, the half-tone dots aren't as visible.

On your 256-colour monitor, a greyscale or colour gradient might look perfectly smooth...



But when printed on a black-and-white printer, the gradient has to be simulated using fine dots. See 'Greyscale blues'.

2. Yes, this method of expressing monitor resolution is confusing. The actual resolution of your monitor may be as low as 69dpi or as high as 90dpi – the 72dpi figure is an accepted average. However, it's also true to say that your monitor has a resolution of 832 x 624. That's the total number of pixels it can display on screen at once – 832 across by 624 down. The former is the number of dots (or pixels) that your monitor can physically cram into one inch *at its highest resolution*. If it helps, think of the 72dpi figure as a measure of the monitor's level of detail, and the 832 x 624 as a measure of the size of image it's capable of.

The 75Hz you refer to is the number of times per second that each pixel in the screen is updated – in this case 75 times per second. The higher this figure, the less likely the image is to flicker. But the higher the number of pixels displayed on-screen at once, the harder your monitor has to work to keep them updated. It may also be capable of supporting higher resolutions, such as 1,024 x 768, but your Mac may not be up to this without the help of a graphics card, such as the Xceed ColorFusion card (£441 from Mygate Computing, 0800 132591). Such a card takes over the driving of the monitor itself, relieving the load on the Mac's built-in display circuitry.

A larger display resolution gives you more Desktop space and a larger working area, so you can see more of large images in one go. For more on monitors and display technology, see our group test in MACFORMAT 40.

MOTHERBOARD
The motherboard is the large flat square green thing covered in black blobs and bits of solder that lives in your Mac. In fact, this *is* your Mac, or at least the part that does all the computing. Please don't touch it if you don't know what you're doing – it breaks really easily, it's *very* sensitive to static electricity and it's very expensive to replace.

Mac with attitude

SOUND PROBLEMS

Q *1. My LCIII has a noise problem. When it is started up from cold, it produces a hissing tone which steadily rises in pitch until it is inaudible. It does this twice in succession with each hiss lasting around 45 seconds. The hiss is a high frequency noise (like a TV tuned between stations but at a higher pitch). Once it has finished hissing, the Mac behaves normally until the next cold start. I am a student studying electronics and know for sure this is a hardware fault on the motherboard.*

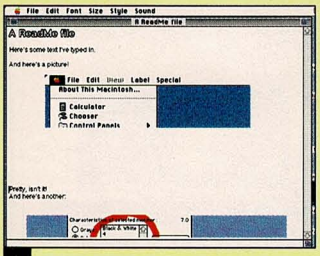
I can't afford to pay for a replacement motherboard, and the problem sounds like a simple transistor or capacitor affecting the audio circuitry. Can you tell me which component is at fault, and whether it's easy to replace? I'm reluctant to pay a service engineer a fortune to replace a 30p transistor.

2. I also have a problem with my Apple Design II mouse. The microswitch sticks occasionally, creating the effect that the mouse button is being held down. When I press the button again, the problem goes away. I have been told that it is relatively simple to replace the microswitch as long as I can use a soldering iron, but I can't find anyone who sells the switch. Where can I get one?

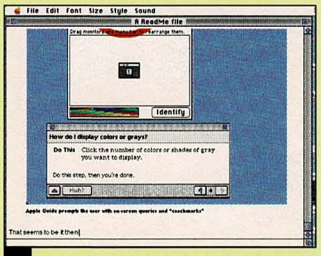
S White
Bournemouth, Dorset

A 1. The noise could indeed be caused by a relatively simple faulty component on the motherboard. On the other hand, it could be

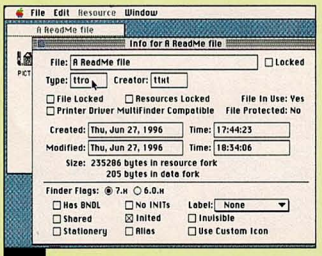
WORTH A THOUSAND WORDS (CONTINUED)



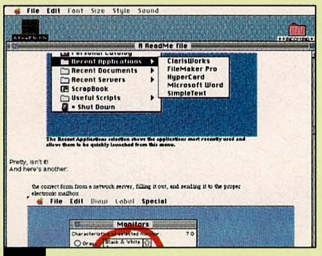
8 *SimpleText* is not very good at refreshing the screen, so the picture might seem to disappear as you adjust spacing. Don't worry, it's all still there, and it will reappear as if by magic when you next use the scroll bars to move up or down the page.



9 Add as many line returns as you need to get the text and pictures aligned correctly. A picture may not display unless you have at least line returns typed right through its entire height, or even some text after it. Save the file and quit *SimpleText*.



10 To make the file read-only, you can now open it up in *ResEdit* again, go to the **File** menu and select **Get Info for [Name of Document],** then change the type from **TEXT** to **ttro** (text read-only). Be sure to type in lower case. Do not fiddle with anything else here! Now **Save** and quit *ResEdit*.



11 And that's it. You should now have a read-only ReadMe file, complete with pictures and the little newspaper icon. You can also change file type using more modest utilities than *ResEdit*, including *File Buddy* or *Get More Info* – but of course even you yourself can't make any changes or corrections to a read-only document.

your Mac's sound chip playing up, or a faulty component in the power supply to your Mac's motherboard. The bottom line is that Mac motherboards are not really designed to be easily repaired. Apple uses surface-mount components for all its motherboards. These are cheap and enable a greater degree of miniaturisation, but they are also very small and notoriously difficult to replace. Even if you manage to correctly identify the faulty component, you will need special equipment to safely remove it. This is a job for someone who knows their stuff.

If you take your Mac to an Apple-authorised engineer or dealer, he may fix the problem the expensive way by replacing the entire motherboard, as you pointed out. If you take your Mac to a competent (but not Apple-authorised) engineer, you might be able to get a single component replaced, but getting hold of the individual component will be difficult and you will invalidate your warranty (if it hasn't run out already)– not handy if it all goes pear-shaped at a later date.

There might be a simple solution though. Try plugging a pair of external speakers into the headphone jack on the back of your LCIII (see our speakers test in MACFORMAT 40 for some suggestions). This will bypass the Mac's internal speaker and some of the audio circuitry which could be the cause of the problem. If you still hear the hiss, you could always wait a couple of minutes before turning the speakers on after start-up. This won't cure the problem, it will just mute the hiss until your Mac has warmed up.

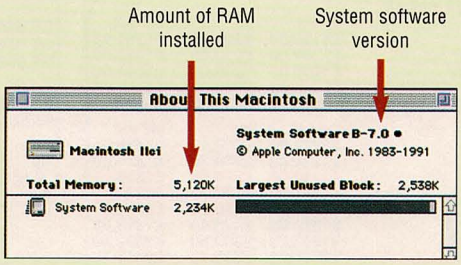
2. You're also going to have problems with your mouse. If you have electronics experience, it is a relatively simple job to replace a microswitch, but getting hold of the genuine Apple component is difficult, and frankly it's going to be next to impossible to find a third-party alternative that matches Apple's component tolerance specs.

First of all, though, you should make sure it is the microswitch at fault. It may be that your mouse is just clogged up with grime and this is affecting the action of the switch. You can take the mouse apart by removing the two screws on the underside (beneath the Apple part number sticker). Carefully remove the small circuit board which is held in by these screws and which contains the electronic guts of the mouse, and wash the casing in lukewarm water with a little detergent. Make sure it's perfectly dry before reassembling the mouse.

If this doesn't cure the problem, it is the microswitch at fault. Again, you might find an engineer or supplier who could source a suitable replacement microswitch for you, but to be honest, given that a brand new mouse only costs around £46, it's not worth the trouble and expense, even if you are able to do the repair yourself. **MF**

The do-it-yourself problem solving guide...

One of the most common causes of problems on your Mac are Extensions or Control Panels clashing in your System Folder. It's easy to check if this is the case. Restart your Mac and hold down **[shift]**. Release the key when you get the message, 'Welcome to Macintosh.



Extensions off.' If everything works, then the problem lies in your System Folder. The only way to work out which item is the culprit is by trial and error. Remove a few Extensions and/or Control Panels, then restart your Mac, without holding down **[shift]**. Keep on doing this until the problem no longer occurs and you've found the offending software.

If this doesn't work, try rebuilding your Desktop. Start up your Mac holding down **[command]** and **[option]**. You'll get a message asking if you want to rebuild the Desktop. Click **[OK]**, wait for it to finish and see if this solves your problem.

If you're still stuck, use the form below to write to us. We'll need to know a few facts about your Mac, so when you're in the Finder, select **About This Macintosh** from the **Apple** Menu.

If you send in a question for the MACFORMAT experts to solve, please fill in and include this form (or a copy of it). And please make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you. Send your form and question to: MacAnswers, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW or fax it to us on 01225 446019.

Name .....

Address .....

.....

.....

.....

.....

Your Mac
(For example, Performa 200, IIfx, PowerBook 145):

.....

System version
(see **About This Macintosh** screenshot above): .....

Amount of RAM
(see **About This Macintosh** screenshot above): .....

Are you using Virtual Memory? ..... **YES/NO**
(This is accessed from the Memory Control Panel under System 7)

Do you have 32-bit addressing turned on? ..... **YES/NO**
(This is accessed from the Memory Control Panel under System 7)

Details of any relevant hardware which could help us to answer your question:

.....

.....

Now, use this space to describe your problem or question. Please include as much relevant information as possible, and continue on a separate sheet if necessary.

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GASTEINER

18 - 22 Sterling Way,
North Circular Road,
Edmonton London N18 2YZ

TEL:0181 345 6000
FAX:0181 345 6868

APPLE AUTHORISED RESELLER & SERVICE PROVIDER

COMPUTERS

PERFORMA RANGE

	EX VAT	VAT	INC VAT
6320 8MB RAM 1.2 GIG H DISK CD & KEYBOARD	£1150.00	£201.25	£1351.25
6320 16MB RAM 1.2 GIG H DISK CD & KEYBOARD	£1200.00	£210.00	£1410.00
5320 8MB RAM 1.2 GIG H DISK CD 14.4 MODEM & KEYBOARD	£1400.00	£245.00	£1645.00
5320 16MB RAM 1.2 GIG H DISK CD/TV/MPEG/28.8 MODEM & KEYBOARD	£2000.00	£350.00	£2350.00

POWER MAC RANGE

	EX VAT	VAT	INC VAT
7200/90 16MB RAM 1GIG CD	£1200.00	£210.00	£1410.00
7200/90 32MB RAM 1GIG CD	£1340.00	£234.50	£1574.50
7500/100 16MB RAM 1 GIG H DISK CD	£1580.00	£276.50	£1856.50
7500/100 32MB RAM 2 GIG H DISK CD	£1890.00	£330.75	£2220.75
7500/100 32MB RAM 4 GIG H DISK CD	£2230.00	£390.25	£2620.25
8200/100 8MB RAM 1.2 GIG H DISK CD	£1375.00	£240.63	£1615.63
8200/100 32MB RAM 2 GIG H DISK CD	£1900.00	£332.50	£2232.50
8200/120 16MB RAM 2 GIG H DISK CD	£1715.00	£300.13	£2015.13
8200/120 32MB RAM 2 GIG H DISK CD	£1915.00	£335.13	£2250.13
7600/120 16MB RAM 1.2 GIG H DISK CD	£2195.00	£384.13	£2579.13
7600/120 32MB RAM 1.2 GIG H DISK CD	£2395.00	£419.13	£2814.13
8500/120 16MB RAM 2 GIG H DISK CD	£2825.00	£494.38	£3319.38
8500/120 32MB RAM 2 GIG H DISK CD	£3025.00	£529.38	£3554.38
8500/150 16MB RAM 2 GIG H DISK CD	£3155.00	£552.13	£3707.13
9500/132 16MB RAM 2 GIG H DISK CD	£2955.00	£517.13	£3472.13
9500/132 16MB RAM 2 GIG H DISK CD (WITH 2MB ATI VIDEO CARD)	£3110.00	£544.25	£3654.25
9500/150 32MB RAM 2 GIG H DISK CD (WITH 2MB ATI VIDEO CARD)	£3565.00	£623.88	£4188.88

POWER BOOK RANGE

	EX VAT	VAT	INC VAT
190 4/500	£800.00	£140.00	£940.00
190CS 4/500	£999.00	£174.83	£1173.83
5300 8/ 500	£1400.00	£245.00	£1645.00
5300CS 8/500	£1750.00	£306.25	£2056.25
5300C 16/750	£2400.00	£420.00	£2820.00

EXTRA VALUE POWER MAC BUNDLES WITH MONITORS & MEMORY

	EX VAT	VAT	INC VAT
7200/90 16MB RAM 1GIG CD WITH 17" MONITOR	£1580.00	£276.50	£1856.50
7200/90 32MB RAM 1GIG CD WITH 17" MONITOR	£1720.00	£301.00	£2021.00
7500/100 16MB RAM 1 GIG H DISK CD WITH 17" MONITOR	£1960.00	£343.00	£2303.00
7500/100 32MB RAM 2 GIG H DISK CD WITH 17" MONITOR	£2270.00	£397.25	£2667.25
7500/100 32MB RAM 4 GIG H DISK CD WITH 17" MONITOR	£2610.00	£456.75	£3066.75
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4GIG	£550.00	£96.25	£646.25
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270MB INT.	£229.00	£40.08	£269.08
270MB EXT.	£299.00	£52.33	£351.33
EZ 135 EXT.	£99.00	£17.33	£116.33
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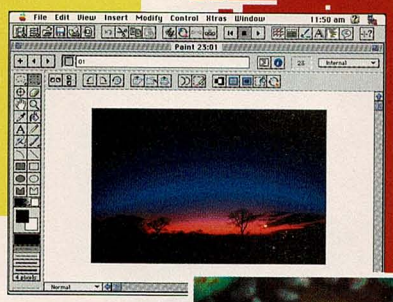
Reviews

Tests you can trust – all the latest hardware and software, from scanners to games.

Our technical expert puts a range of the latest affordable desktop colour scanners through their paces – page 84.



A new version brings dramatic changes for leading multimedia authoring software *Director* – page 94.

Got the maths blues? You can count on *The Logical Journey of the Zoombinis* – page 109.

Digital cameras – tomorrow's technology literally at your fingertips – page 84.

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NAME OF PRODUCT

Price: List price, inc VAT **Out:** release date
Requires: Minimum Mac, amount of RAM, System version, hard disk space (if 5Mb or more), monitor size/colours, other relevant
Contact for more information, not purchase

MACFORMAT RATING 72%

This is the information we include in reviews, with more detailed ratings for separate aspects of a product where relevant. The overall ratings scale is explained below.

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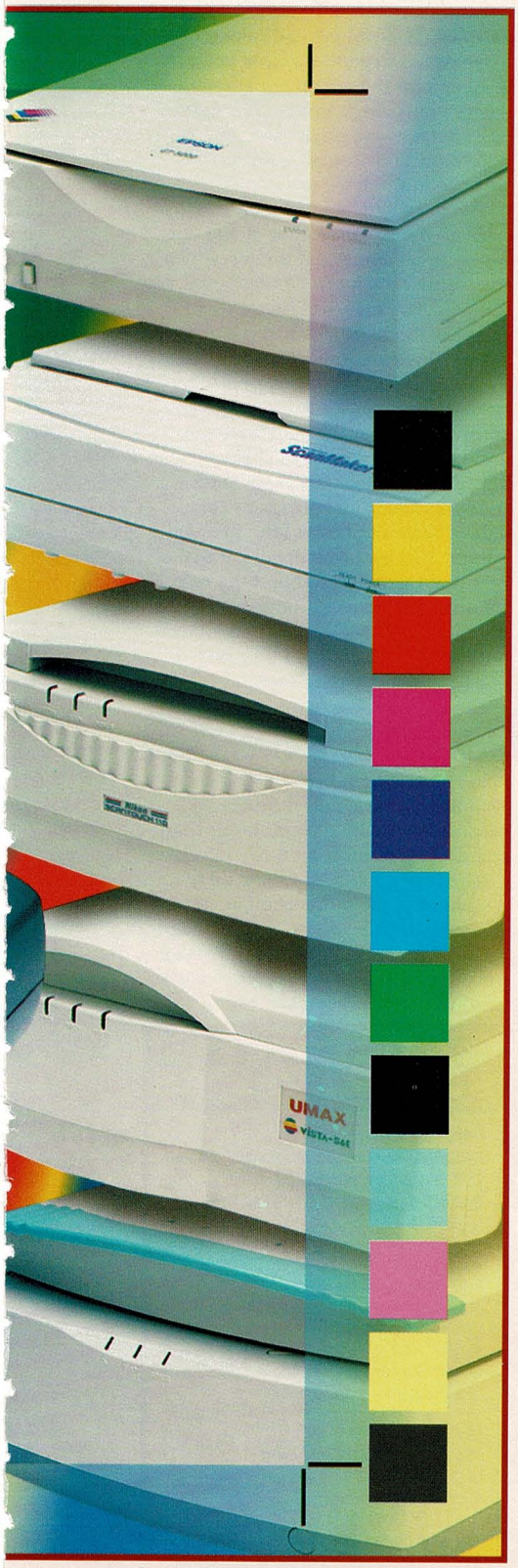


Going digital with your holiday snaps needn't be expensive, nor should scanning. Lindsay Bruce tests a range of affordable scanners and digital cameras.

Part of the wonder of owning a Mac is all those fun things you can do with images. Drawing and painting programs are a start, but to get really creative you'll often need to make use of some real-life material.

Given the vast range of digital image manipulation software available these days, both shareware and commercial, you can easily make the sky green, grass blue and bananas pink – on your Mac at least. Once you have your image stored in your Mac, you can do just about anything you like with it. You can change the colours or dimensions of it, distort it, add or remove parts of it. Many of these effects just aren't possible with conventional photographic techniques, and they're what your Mac does best. The problem is getting your original image into the Mac in the first place.

This is where some form of digitiser comes in. Such a device – a scanner or digital camera – translates the world around us into a form your Mac can use and you can manipulate.

A scanner takes a flat image like a photograph and analyses the colour components that make up the image. It then creates a digital copy of the image, using numbers to represent the colours it 'sees'. A digital camera is something of a cross between a scanner and a conventional camera. It has a lens, shutter and flash – but instead of using film, it uses electronics to detect different light intensities and colours. It records and stores this as a digital image that your Mac can use.

You'll probably hear lots of claims that you can do away with conventional cameras and scanners by using a digital camera. That's nonsense. While you may not have to buy film for them, digital cameras are a long way from being anywhere near as good as the cheapest of compact cameras. They also can't produce anything like the resolution of a good flatbed scanner. In time, it's possible that digital cameras will be able to capture as much detail as conventional film, and at a price tag more in line with your average snapper. But not yet. Today, a digital camera is worth it only if you really need pictures in digital form *instantly*.

So which digitising kit should you buy? The key to buying any Mac peripheral is to identify your needs, then buy accordingly. All the scanners and cameras we tested came with cables to connect them to your Mac and image-editing software. For scanners, this is often *Photoshop LE* – a cut-down version of *Photoshop* without the multiple layers feature. Most digital cameras offer simpler software that enables you to alter the colour balance of the image. The cameras are generally more expensive, so you'd expect them to come with superior software. But the truth is, scanners produce much better images, so good image manipulation software is more necessary.

All photographs require a degree of colour correction when scanned, to compensate for wrong exposure of the original photograph and to correct the inaccuracies inherent in the scanning process. Colour correction enables you to alter the brightness and contrast of the image, strengthen or weaken individual colours, or adjust the RGB curves (or CMYK if the scan has already been converted for printing). The latter enables you to reduce or increase the intensity of one component colour or take it out altogether.

Most low-cost scanners are easily capable of around 300dpi resolution, which is fine for most home and small office use. A comparable digital camera, though, is lucky if it can manage 150dpi at its best setting.

Both devices are quite capable of capturing 24-bit (16.7 million colours) images. Even the cheapest of colour scanners is accurate enough to produce high-res files that can take up megabytes of disk space. It makes sense, therefore, to scan only as much detail – and as many colours – as you really need. All scanners will scan black-and-white line art, but to get black-and-white out of your digital camera you'll have to run the colour scan through an image editor.

That's enough general considerations. Let's look at our representative range of kit, starting at just £300 or so.

GET DIGITAL!

This issue we're taking at detailed look at digital images. Over the next seven pages, we review eight bits of kit that are designed to get images into your Mac. If you want to know more about digital images and what you can do with them, see our feature starting on page 38 of this issue.

WHAT ABOUT TEXT?

With a scanner and optical character recognition (OCR) software, you can scan pages of text into your Mac and edit them as you would any word processor document. Most scanners come bundled with some OCR software, but if you're interested in buying it separately, or just want to know more about it, see our review of *TextBridge Pro* on page 102.

Continued on next page

HOW DOES A SCANNER WORK?

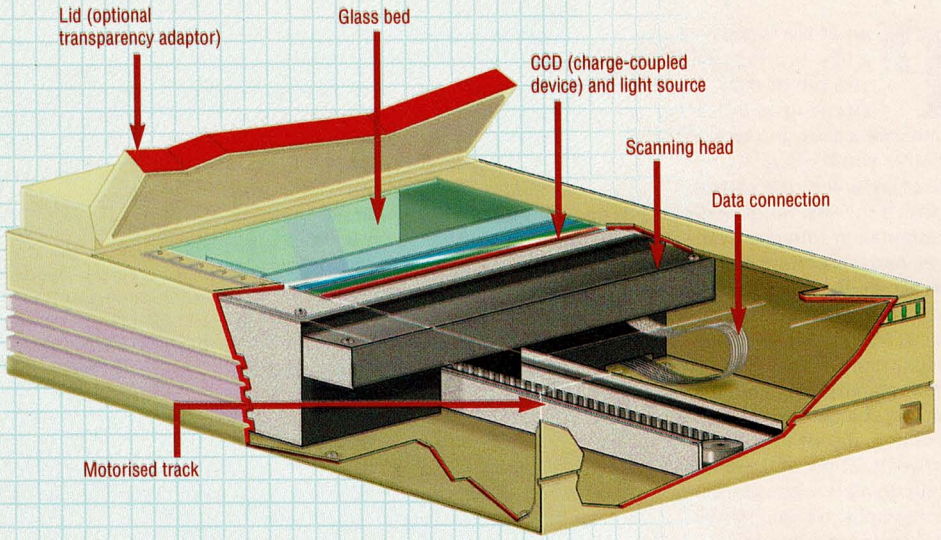
There are two types of scanner: flatbed and drum. Flatbeds are the more common, and are designed to scan anything that will lie flat. Drum scanners are more accurate, less common, a lot more expensive and can only be used to scan photographic transparencies.

Flatbed scanners work by reflection. The image you want to scan is laid face down on a sheet of glass and covered over with the scanner lid to prevent any light leakage. A bright light is then passed across the image from under the glass and the light that reflects is measured (in most scanners these days) by a charge-coupled device or CCD.

A CCD is a light-sensitive electronic device. The more intense the light shining on it, the more electrical current it outputs. In this way, the circuitry in the scanner can measure the light intensities reflected from various parts of your scan. Different colours reflect different intensities of light; using this data, the scanner creates a digital copy of the image, which your Mac can then treat like any other bitmap graphic, enabling you to edit it in your graphics software.

When the technology was in its early stages, scanners had to make three passes to get the whole image – one each for the red, green and blue components of the image. These days, most flatbeds are single-pass, and the different colour components are all scanned at the same time.

The most basic flatbed scanners have an optical resolution of 300 dots per inch, meaning that for every inch the scanner analyses, it takes 300 light samples. The higher the number of samples, the more detailed the digital image. However, most scanners use interpolation to artificially boost the resolution of the scanned image – the software looks at the samples taken and works out the colour difference between adjacent samples. It then produces additional dots with colour values between those of the sampled values. This isn't true detail – it makes up these extra dots to boost the resolution of the image. Interpolated scans tend to have a slightly blurred appearance when you zoom in on them, but convince the eye otherwise.



MICROTEK SCANMAKER E3

WIN a Microtek E3 scanner – see page 138

The Scanmaker E3 is the basic model in Microtek's range. It has an optical resolution of 300 x 600dpi and can interpolate up to 2,400 x 2,400dpi. The E3 measures 51cm x 34cm and weighs 7.5kg, all average statisitcs for a desktop scanner. Transparency and document feeder adaptors are available as optional extras. In the box you'll find a wealth of software,

including *Color It 3.0*, *ScanWizard*, and *OmniPage 2.0.1* OCR software. *ScanWizard* is a plug-in for use with *Photoshop* and other compatible programs. Alternatively, you are also provided with *Microscan*, a small utility which uses the same plug-in but requires slightly less memory than either *Photoshop* or the supplied *Color It*. *ScanWizard* is straightforward to use and offers you all the basic options of resolution, scale, colour depth and automatic colour and contrast correction. If you're a more advanced user, you can tackle modifying the RGB response curves manually, but you will find the whole process much easier if you change them within *Photoshop*.

The *ScanWizard* interface is uncluttered, and the more advanced options are hidden from view, something which makes the whole thing less confusing if you're a beginner. If you do have a bit of scanning experience though, the more complicated features are easily accessed via a row of buttons.

The documentation that comes with the E3 is superb. You get a book stuffed full of the theory behind scanning, some tips and tricks, advice on how to set up a scan, colour correction, jargon explained and more. The manual covers everything from setting up your scanner to how to get the best out of the *ScanWizard* software. Other manufacturers should take a leaf out of Microtek's book.

In use, it took the Scanmaker E3 26 seconds to scan our test photo, 20 seconds to scan a page of A4 line art, and 26 seconds for A4 greyscale. A full colour A4 page, however, took a thumb-twiddling four minutes 36 seconds – only 20 seconds faster than the slowest scanner on test.

The scan quality was impressive for a scanner of this price, though. The images were a bit fuzzy at 600dpi and some of the more subtle colour gradients were lost, but overall the scanner produced very acceptable results.

MICROTEK SCANMAKER E3

Price: £328. **Out:** now.
Additional hardware: Transparency adaptor £352, document feeder £559.
Contact: Computers Unlimited on 0181 358 5857.

FEATURES 81%
Everything the home and small office user needs; not ideal for the pro.

EASE OF USE 82%
Simple and easy-to-use after a flick though the manual.

DOCUMENTATION 94%
The A-Z of scanning and loads of tips, tricks and troubleshooting.

VALUE FOR MONEY 89%
The scan quality isn't stunning; ease of use makes it well worth considering.

MACFORMAT RATING 86%

EPSON GT-5000

As flatbed scanners go, this has to be one of the smallest on offer. Measuring a compact 30 x 46cm and 9cm in height, and weighing just 5kg, the GT-5000 takes up little more space than the in tray on your desk. It can scan in either single- or triple-pass mode, has an optical resolution of 300 x 300dpi and can interpolate up to 1,200 x 1,200dpi.

EPSON GT-5000

Price: £469. **Out:** now.
Contact: Epson on 01442 61144.

FEATURES 79%
Good results, but more features and a *Photoshop* plug-in would be helpful.

EASE OF USE 72%
Easy to set up, but the scanning software isn't as intuitive as it could be.

DOCUMENTATION 81%
Very good; covers all you need to know about scanning, but a manual for the scanning software wouldn't go amiss.

VALUE FOR MONEY 83%
Given the scan quality, this is a very reasonable price. It's worth a look.

MACFORMAT RATING 81%

The triple-pass mode enables you to scan individual colour components, so you can tackle scans that would normally trouble your Mac because they'd end up too big for its RAM.

With the scanner you get *Adobe Photoshop LE 2.5, Epson Scan! II, TWAIN* software, and *TextBridge 3.0* OCR software. The scanner doesn't come with a plug-in for *Photoshop*, which seems a little strange, so you either have to use *TWAIN* or *Epson Scan! II*. The latter is pretty basic and has the standard colour controls. The most annoying thing about this program is that it doesn't spool your image to disk as it's scanned, so you can't make scans that take up more physical RAM that you have. You do have the option of doing the scan in three passes to get round this, but for really big scans – something that's not unusual, particularly in colour image manipulation – a *Photoshop* plug-in would have been a better solution.

The GT-5000 was reasonably fast, with our photo taking 22 seconds. A4 line art went through in a rapid 14 seconds, and an A4 greyscale image in 45 seconds. We couldn't get a meaningful timing of a A4 colour 600 dpi scan, because the picture in question required over 100Mb of memory, something we didn't have. This is because of the aforementioned lack of a spooling facility.

The documentation with the scanner is good. It describes the concept behind scanning, explains jargon and gives good tips on how to improve your scans. The documentation for *Epson Scan! II* is non-existent, and

while the program is easy enough to work out, you might find this frustrating if you're a beginner.

In terms of image quality, the GT-5000 scanner fared quite well. Images were a little fuzzy, but the colour reproduction was reasonable. The **Sharpen** filter in *Photoshop* deals admirably with the slight blur of the scanner as well as any problems caused by interpolation.

UMAX VISTA S6E

The Vista S6E is Umax's most basic flatbed scanner. It has an optical resolution of 300 x 600 dpi and a maximum interpolated resolution of 1,200 x 1,200 dpi. Occupying 53 x 34 cm of desk space and weighing in at 8kg, it's not as compact as the Epson GT-5000, but compared to the behemoth Saphir (reviewed on page 88) it's a dainty little object. In the box you'll find *Photoshop LE* and *VistaScan*, Umax's set of scanning utilities. This comprises plug-ins for *Photoshop* and a *VistaScan* desk accessory, for use with the plug-ins if you don't have *Photoshop*. There are also auto set-up and network-share utilities. The auto set-up utility is for use with the automatic scanning plug-in – if you frequently scan the same size images at the same resolution, this plug-in will do the scan automatically, without you having to touch the keyboard. The network-share utility enables you to connect the scanner to a network, so that people can access it without using your Mac and wasting your time.

VistaScan is intuitive and easy to use. All of the standard options, such as resolution, scale, and colour depth, can be selected from simple pop-up menus, which makes configuring your scan quick and easy. The colour controls are basic, but easy to understand and use.

The documentation is very light indeed, and only tells you how to connect the scanner to your Mac. The rest of the instructions come as *Adobe Acrobat* files installed on your hard disk, and you'll either love or hate them. *Acrobat Reader* is supplied, and all the documents are well-written and assume you've never touched a scanner in you life. There's a good trouble-shooting section, and if everything gets too much there are even rolling demos to help you out.

In our speed tests, the S6E thrashed all the other scanners. It scanned our test photo in 17 seconds, the A4 line art in 13 seconds, and the A4 greyscale in 17 seconds. The full-colour A4 page

was the most impressive, taking a mere two minutes and 20 seconds with a scan quality that was reasonably good, falling just short of the Epson GT-5000. The scans are a little fuzzy and the Umax struggled with some colours, especially green, but overall the quality was impressive for this price bracket.

UMAX VISTA S6E

Price: £582, street price £460. **Out:** now.
Contact: IMC Distribution on 01344 872300.

FEATURES 86%
A very fast and solid performer; we especially liked the auto-scan feature.

EASE OF USE 92%
Excellent. The software is quick, easy-to-use and readily understandable.

DOCUMENTATION 87%
Could do with a printed manual, but the *Acrobat* documents and demos tell you all you need to know.

VALUE FOR MONEY 84%
An easy-to-use scanner that produces good results. Ideal for the home.

MACFORMAT RATING 85%

Continued on next page

NIKON SCANTOUCH-110

The ScanTouch-110 is Nikon's entry-level flatbed. It's a single-pass model with an optical resolution of 300 x 600dpi and can interpolate images up to 4,800 x 4,800dpi, although there is an obvious loss of clarity at that level. It takes up a modest 33cm x 53cm of desktop space and weighs 8kg. The ScanTouch comes

with the *Nikon Scan* plug-in for *Photoshop*, *Adobe Photoshop LE* and *Nikon Control*, a shell application capable of using the *Nikon Scan* plug-in to give you an alternative to *Photoshop*. Transparency and document feeder adaptors are available as options.

In use, the *ScanTouch* is rather slow. Our 15.2 x 10cm test scan took a mere 18 seconds to complete, but a full colour A4 page took nearly five minutes. The A4 greyscale scan took exactly one minute, and oddly enough the same scan in line art took 26 seconds longer. Hardly a speed demon, this scanner.

The *Nikon Scan* plug-in for *Photoshop* provides basic manual colour correction controls as well as sharpen and blur effects. The latter features seem a bit superfluous given that *Photoshop LE* (supplied with the scanner) has filters which give you more precise control and achieve the same result. The software is fairly easy to use, but the cramped interface could be improved. The *Nikon Control* software is a neat idea, as it enables you to use the scanner without the memory overheads that *Photoshop* demands, but Nikon really has to either expand its features or reduce its memory partition before it can be any real use.

The documentation covering the scanner and scan software was readable and reasonably comprehensive. The setting-up instructions were particularly good, with copious diagrams showing you exactly what's what.

Sadly, the whole thing falls at the last hurdle – the scan quality was disappointing. Images were fuzzy and lacked any clarity, while something very strange happened to the colour balance on all our test scans. Most colours looked flat and washed-out and the pictures lacked contrast. Adjusting the sharpen and colour controls helped, but the overall result pales into insignificance compared to the other scanners on test.

NIKON SCAN-TOUCH-110

Price: £589. **Out:** now.
Additional hardware: Transparency adaptor £457, document feeder £540.
Contact: Nikon on 0181 541 4440.

FEATURES 65%
Too slow and it produces only average quality results.

EASE OF USE 76%
Hook it up to your Mac, install two disks and you're off. The scanning software would benefit from a face lift.

DOCUMENTATION 79%
Step-by-step in easy language. Could do with a troubleshooting section.

VALUE FOR MONEY 71%
Even at this price it doesn't have a great deal that you can't get elsewhere.

MACFORMAT RATING 69%

LINOTYPE-HELL SAPHIR

The Saphir is described as an entry-level professional scanner, and as such, you probably won't be buying one for home use. The largest of all the scanners on test, it requires a hefty 38 x 56cm of desk space and weighs 12kg. It's a single-pass scanner and boasts an impressive optical resolution of 600 x 1,200dpi, with interpolation of up to 2,400 x

2,400dpi. It comes with a full version of *Photoshop 3.0* with plug-ins, plus *LinoColour Lite* and *TextBridge* OCR. It also has a transparency adaptor as standard, along with a colour calibration target and software. You can use these to recalibrate the scanner, which is then able to compensate automatically for the ageing of the scanning lamps.

The *LinoColour Lite* program provides everything you need for scanning images. Its sophisticated colour correction options leave *Photoshop's* standing, and enable you correct the entire image or a single colour, or even substitute individual colours in the image using colour selection. If you're a novice you can use automatic colour correction, and there are presets for different subject matters – landscapes, skin tones and jewels for example. There are only two minor gripes with this software: it's PowerMac only, and it requires a minimum of 15Mb of RAM. Mind you, if you need and can afford this scanner, you've probably got a top-of-the-range PowerMac with oodles of RAM already.

The documentation that comes with the scanner is extensive, and covers every conceivable question you might have. It's rather heavy going and the jargon isn't explained particularly well, but it is thorough apart from that. Setting up the scanner itself is easy; if you can't face *LinoColour's* extensive controls, the *Photoshop* plug-in is a cut-down, but still comprehensive, version with a less bewildering array of pop-up menus.

In terms of performance, the Saphir blows the socks off all the other scanners on test, but at several times the price of its rivals you should reasonably expect that. While its scanning times were broadly similar to the others, the image quality was superb. Scanned images were incredibly crisp and sharp, while the colours were extremely accurate and well-balanced.

LINOTYPE-HELL SAPHIR

Price: £3,819; street price £2,300 **Out:** now.
Contact: Linotype-Hell on 01242 285065.

FEATURES 93%
High-spec and comes with everything you need for all types of jobs.

EASE OF USE 86%
LinoColour is a bit daunting, but the *Photoshop* plug-in is easy to use.

DOCUMENTATION 84%
No shortage of it. A bit on the heavy side, but very comprehensive.

VALUE FOR MONEY 88%
The scan quality, coupled with the bundled software and transparency adaptor, makes it highly attractive.

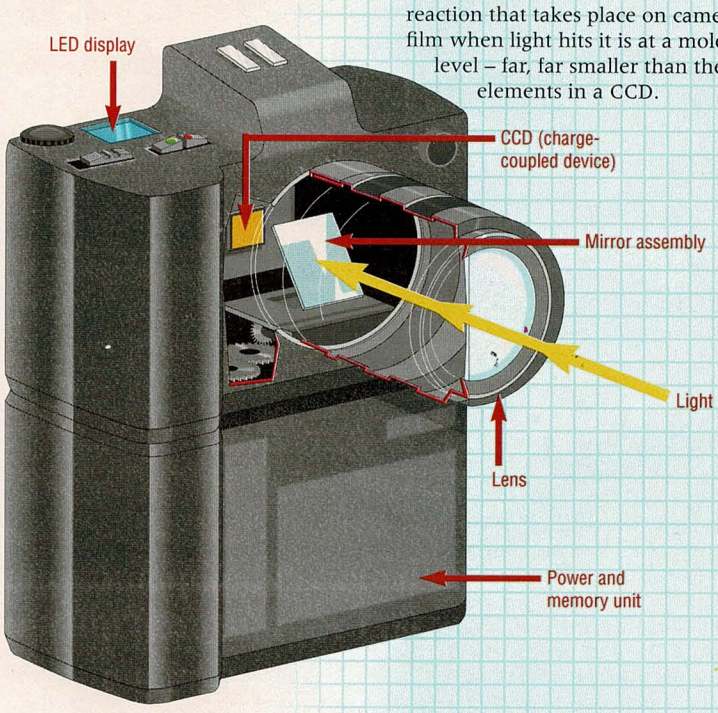
MACFORMAT RATING 89%

HOW DOES A DIGITAL CAMERA WORK?

Digital cameras look and work very much in the same way as conventional cameras, the main difference being that instead of having a roll of light-sensitive film, they use a light-sensitive CCD (charge-coupled device). When you take a picture with a digital camera, the shutter opens and closes quickly in order to let light through, just as it does with a conventional camera. This light is focused onto the CCD and forms an image.

The CCD is made up of tiny light-sensitive elements, and the light causes these to produce electrical currents which vary in strength according to the intensity of the light that hits each particular element. These signals are then measured, and from that measurement the colour of the light that hits each element is calculated. These colour values are then stored in the camera's memory as a digital image. The maximum resolution of the digital image depends entirely on the number of elements in the CCD – the more elements, the higher the possible resolution. To retrieve the image from memory simply involves connecting the camera to your Mac.

The advantages of using a digital camera are immediately obvious: you don't need to wait for the film to get processed and then scan the prints or transparencies into your Mac. Digital cameras are expensive, however, because they are still a relatively new technology. A digital camera can only reproduce a specific number of colours (16.7 million at the moment) whereas the number of colours produced by light hitting photographic film in a conventional camera is theoretically infinite. Also, digital cameras can't offer the same amount of detail that a standard camera can, because there's a limit to how small the individual elements in the CCD can be made. The reaction that takes place on camera film when light hits it is at a molecular level – far, far smaller than the elements in a CCD.



HOW MUCH?!

Memory is still more expensive than film, and this makes digital cameras expensive. At the moment, the technology is very costly, but there will come a day – not too far off – when you'll be able to buy a digital camera that will store as many pictures as a standard 36-exposure film (if not more), with comparable quality and costing just a little more than a conventional camera.

KODAK DC-20 DIGITAL CAMERA

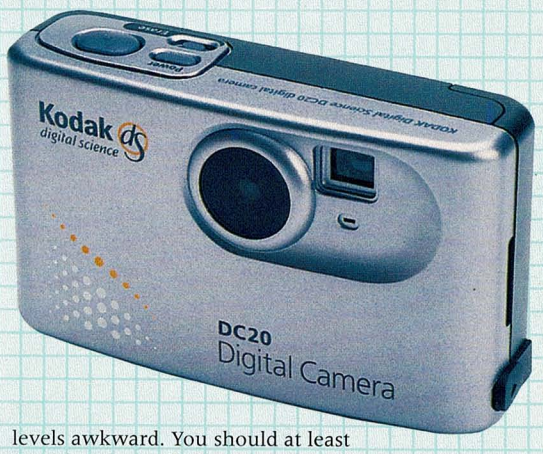
Kodak's newest digital camera is aimed at you if you're a home computer user who enjoys taking snaps. The DC-20 is a tiny camera, measuring only 10cm x 6cm x 3cm and weighing next to nothing.

The camera is very easy to use and features completely automatic focus and exposure, and automatic shutter speed between 1/30 and 1/4,000 of a second (depending on the surrounding light levels). This makes taking a photo as easy as point-and-click (if you'll pardon the pun). It can take up to 16 photographs in low-resolution mode (320 x 240) or eight in high-resolution mode (493 x 373). The resolution is changed via the camera's software, so you have to attach the camera to your Mac each time you want to alter the setting.

Despite this awkward drawback, however, the software bundle is impressive. The DC-20 comes with *PhotoEnhancer*, a basic image-editing program – and we mean basic. You can use it to adjust the brightness and contrast of your images, but that's about the program's limit. But there's more: you also get a cut-down version of the delightful *Kai's Power Goo* and *Slides & Sounds* presentation software, along with *Photoshop*-compatible plug-ins for retrieving images from the camera if you own a good image editor. The CD containing the software is dual-format and both Mac and PC versions of all the software are provided – just in case you ever want to connect the camera to a PC. Each item of software is very easy to use and comes with its own manual.

A connection cable is also provided; this plugs into the printer or modem port of your Mac, while the other end plugs into a jack socket on the camera.

The picture quality of the camera is impressive, and while its low resolution frankly makes it unsuitable for anything other than light-hearted uses, the automatic shutter speed and focus functions make it difficult to take a bad photo once you accept these limits. The lack of a flash is a drawback, though, and makes taking pictures in low light levels awkward. You should at least be able to buy a flash unit as an extra.



Everything about the camera oozes ease of use, and taking photos with it is genuinely fun. The price tag might put you off a bit, since £350 isn't cheap for a 'fun' camera, but just think of the money you can save on film and processing costs – plus all that fun you can have warping your relatives with *Kai's Power Goo*.

Continued on next page

KODAK DC-20

Price: £350; street price £320. **Out:** now.
Contact: Kodak on 0800 281487.

FEATURES 88%
Low resolution and no flash, but good auto focus and shutter speed.

EASE OF USE 91%
Point-and-click. Transferring the images to your Mac couldn't be easier.

DOCUMENTATION 93%
Thorough and easy to follow, with a good troubleshooting section.

VALUE FOR MONEY 90%
It's not cheap – but with this ease-of-use and the software, it's a snip.

MACFORMAT RATING 91%

APPLE QUICKTAKE 150

The QuickTake 150 is Apple's second attempt at a digital camera, the QuickTake 100 being the first. The 150 offers two settings, both at 640 x 480 pixels, and can store 16 high-quality pictures, 32 low-quality pictures or a combination of both. The camera has its own flash,

which can be set to on, off or automatic. We found that the auto sensor wasn't particularly accurate, and a lot of our photos ended up over-exposed. The QuickTake doesn't have a zoom function, but it does have a clip-on lens that fits over the front of the camera to enable you to do close-ups.

You also get batteries, a carrying strap, *PhotoFlash 2.2* image manipulation software and a Control Panel, a neat addition that enables you to copy all the images in the camera over to your Mac easily. A serial cable plugs into either the printer or modem port on the back of your Mac, with a slide cover on the camera revealing the connection at the other end. Copying the images is surprisingly fast, taking only a few seconds.

PhotoFlash is a basic image editor and enables you to alter the colour contrast and brightness of the images. You can also crop, rotate and resize your images, as well as sharpening or blurring them. It also has a library feature that enables you to store and retrieve your pictures quickly, without having to hunt around your hard disk.

The documentation is easy to understand. There is little in the way of advice for taking good photographs, but the manuals are very helpful when it comes to editing the images.

The image quality of the QuickTake is reasonable, but like its rivals, it doesn't come close to even a cheap conventional camera. Its strength lies in transferring images to your Mac with the minimum of fuss.

An annoying feature is a slight delay between pressing the button and the camera taking the picture, making action shots tricky. In low-quality mode, the QuickTake's image quality is poor, only suitable for on-screen viewing and probably not even of acceptable quality for use on the Internet. Images are ill-defined and the colours are blotchy and lifeless. On the high-quality setting, the image is sharper and the colours are far better, but still not ideal.

APPLE QUICK-TAKE 150

Price: £523. **Out:** now.
Contact: Apple on 0800 127753.

FEATURES 71%
Reasonable images, but suffers from over exposure with the flash on.

EASE OF USE 80%
Point and click, connect to your Mac and download, print out and frame.

DOCUMENTATION 82%
Good for both camera and software. Well-written and easy to read.

VALUE FOR MONEY 69%
A nice toy and fun to use, but pricey for the image quality.

MACFORMAT RATING 72%

KODAK DC-50

The DC-50 is Kodak's more sophisticated digital camera and is aimed at people who want an alternative to a standard compact camera. It has a resolution of 756 x 504 pixels and offers three quality levels, which you can mix at will until

you run out of memory. The camera can accommodate 24 pictures on the lowest setting, ten on medium setting and seven on the highest quality setting. It also features an automatic flash, a ten-second delay timer, a zoom lens, and a PC Card slot so you can fit a card offering additional storage space. This is an optional item and doesn't come with the camera. The 5Mb card Kodak offers can store up to 90 low-res pictures or 35 high-res pictures. You can also use compatible cards from other manufacturers up to 40Mb in size, enabling you to store a maximum of 720 images! This memory addition feature is unique among the cameras we looked at.

With the camera comes *PhotoEnhancer* – a basic image manipulation program – and a floppy disk manual in *Acrobat* format (*Acrobat Reader* is supplied). The software is dual-format Mac and PC and you get connection cables for both. *PhotoEnhancer* offers colour, contrast and brightness controls, as well as crop and rotate, and it will also save the pictures out in PICT, TIFF, JPEG or EPSF formats. One annoying factor is the time it takes to download the images from the camera. The QuickTake was much faster, and you'll find yourself tapping your fingers waiting for the DC-50.

The camera itself is comfortable and light to hold. The trigger and zoom controls are placed near the holding strap so that you can take photos one-handed if necessary. The obvious drawback is that left-handed people will find this uncomfortable. As with the QuickTake, there is an unfortunate delay between pressing the button and the camera taking the image.

You can change resolution at any time via an LCD (Liquid Crystal Display) on the camera. You can also set the focus, erase and timer from here. The LCD also shows the number of images left before the memory is full.

The DC-50 was the best of the lot for picture quality. Low-res pictures were blocky, though the middle settings were acceptable for on-screen display. In high res the difference shows, with crisp images and real depth to the colour.

KODAK DC-50

Price: £850. **Out:** now.
Contact: Kodak on 0800 281487.

FEATURES 89%
Packed full of them. The zoom and the PC Card slot are definitely winners.

EASE OF USE 86%
Not quite as easy as some, but more comfortable to handle.

DOCUMENTATION 79%
No tips and little trouble-shooting. A printed manual would be nice.

VALUE FOR MONEY 82%
It's a lot of money to spend, but the DC-50 has a lot to offer.

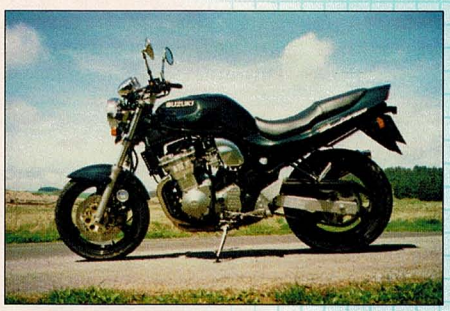
MACFORMAT RATING 87%

SCANNERS – THE RESULTS

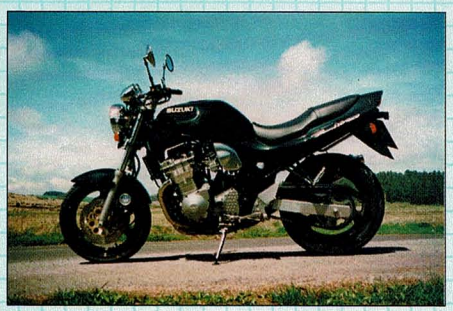
For each of the scanners on test, we scanned in a standard, slightly over-exposed, photograph at 50% actual size and 250 dots per inch. This was our main test image to see how accurate each scanner was, how well each set of colour correction software worked and how sharp the final scan was.

We also scanned an A4 page in three different colour modes – black and white (line art) at 300 dpi, greyscale at 300 dpi, and – a real test – full colour at 600 dpi. The scanning times for each are shown in the table below. All the tests were conducted using a PowerMac 9500 with 32Mb of RAM. As you can see, the difference in scanning times is quite startling in some cases, with the fastest scanner over twice the speed of the slowest for a large colur scan.

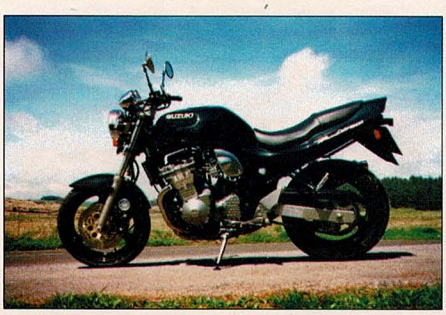
Our original test image: we used a standard batch-processed print from a 35mm camera, just as you'd get from most cameras available to buy.



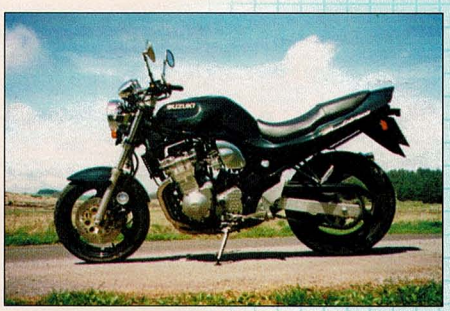
Microtek Scanmaker E3: The E3 produced acceptable results given its price. The scan is fuzzy and the colours are out, but it did pick up some detail the Umax missed.



Epson GT-5000: The Epson came second-best in our tests; the scan was reasonably crisp and it picked up most of the colours accurately.



Umax Vista S6E: The S6E was a little fuzzy and it's missed some of the colours in the picture – particularly the dark green of the fuel tank and some of the grass.



Nikon ScanTouch-110: The ScanTouch's scan quality was a bit of a let-down; the image is fuzzy and it failed to pick up some of the colours.

Linotype-Hell Saphir: The Saphir's scan was brilliantly sharp and it's got all of the colour detail in the picture – but then you'd expect that at its price.

ON YOUR MARKS... GET SET...

Scanner	Photo 250 dpi	A4 line art 300 dpi	A4 greyscale 300 dpi	A4 colour 600 dpi
Microtek Scanmaker E3	26 seconds	20 seconds	26 seconds	4.36 minutes
Epson GT-5000	22 seconds	14 seconds	45 seconds	*
Umax Vista S6E	17 seconds	13 seconds	17 seconds	2.20 minutes
Nikon Scantouch 110	18 seconds	1.26 minutes	1 minute	4.56 minutes
Linotype-Hell Saphir	23 seconds	29 seconds	44 seconds	3.42 minutes

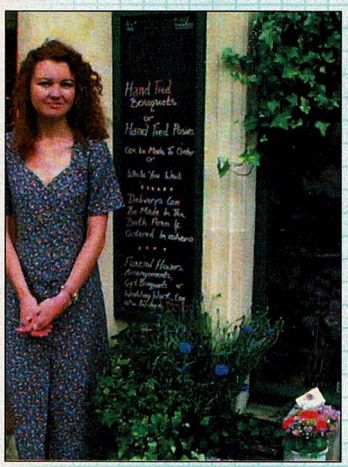
* We couldn't get a time for the GT-5000 because the software refused to cope without 100Mb of RAM.

CAMERAS – THE RESULTS

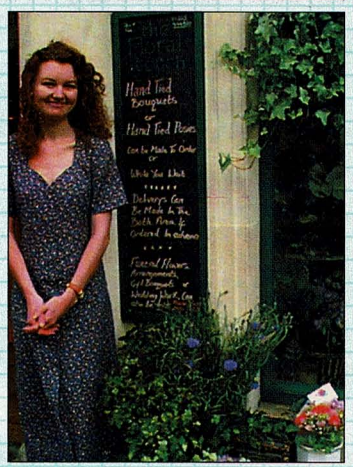
For our tests, we gave the cameras to a professional photographer and sent him off around the scenic city of Bath. After accosting many tourists, he finally persuaded a florist to pose for him.

The DC-50 came out tops in the quality and features stakes, but at £850 it's a pricey option for home use. We liked the DC-20 immensely, and although it's not as sophisticated as the DC-50, it's cheaper, more compact, fun to use and comes with lots of bundled software. In terms of image quality, it's never going to win prizes, but at £350 it's worth considering.

Kodak DC-20: The DC-20's picture quality is a long way from stunning. It lacks definition, colour and contrast.



Apple QuickTake 150: The 150's picture looks washed-out and the colour lacks any depth, giving a harsh result.



Kodak DC-50: The DC-50 showed more detail than the other cameras, and the colour, while not perfect, is much better.

Continued on next page

THE LAST WORD ON SCANNERS

ADD-ONS

You can buy a transparency adaptor for many scanners, which enables you to scan transparencies and negatives. The adaptor replaces the lid of your scanner and has a built in light source for illuminating the transparency from above. You can also get a document feeder that enables you to fill the scanner up with jobs and leave it running.

As far as image quality goes, the Linotype-Hell Saphir thrashed all the other scanners by a huge margin, but it does cost substantially more. All of the scanners on review, barring the Saphir, are intended for home and small office use. The Saphir was the only professional-level scanner we covered, and we included it in the reviews for comparison purposes. So, is it worth the money? If you are in printing or publishing and you frequently need good quality, high resolution scans, then the Saphir is worth every penny. If, on the other hand, you want a scanner for home use, then the Saphir is probably too costly for you.

Of the others on test, the Epson narrowly came tops for image quality, but was let down by its somewhat clunky software. The quality of the Nikon's scans was a disappointment. For image quality without compromise, we liked the Umax Vista S6E for its superb *VistaScan* scanning software. But our overall recommendation is the Scanmaker E3, simply for its value for money – at this price, you simply can't go wrong.

SCANNERS AT A PASS

Scanner	Resolution	Price	MF Rating	Contact
Microtek Scanmaker E3	300 x 600	£328	89%	Computers Unlimited on 0181 358 5857
Epson GT-5000	300 x 300	£469	81%	Epson on 01442 61144
Umax Vista S6E	300 x 600	£582	85%	IMC Distribution on 01344 872300
Nikon Scantouch 110	300 x 600	£589	69%	Nikon on 0181 541 4440
Linotype-Hell Saphir	600 x 1200	£3,819	89%	Linotype-Hell on 01242 285 065

THE LAST WORD ON CAMERAS

Overall, the Kodak DC-50 produced the best results. It was neat, compact, and reasonably easy to use. Its pictures had the most detail and the best colour depth. We liked the QuickTake for the way the software enabled you to mount it on your Desktop like a floppy disk, but sadly its picture quality was disappointing. But we had the most fun with Kodak's DC-20. Although its resolution and picture quality are far from stunning, it's incredbly easy to use, very compact and light, and the bundled *Lite* version of *Kai's Power Goo* will keep you entertained for hours. It is intended as a fun camera, though, and if you want to get into digital photography, you should take a more serious look at the DC-50. For a full review of *Kai's Power Goo*, turn to page 52.

DIGITAL CAMERAS AT A SNAP

Camera	Resolution (pixels)	Flash	Zoom	MF rating	Price	Contact
Kodak DC-20	493 x 373	No	No	91%	£350	Kodak on 0800 281487
Apple QuickTake 150	640 x 480	Yes	No	70%	£523	Apple on 0800 127753
Kodak DC-50	756 x 504	Yes	Yes	87%	£850	Kodak on 0800 281487

If you want a scanner and camera all-in-one, you might want to take a look at the bizarre Fuji FV-10.

ALTERNATIVES

This strange-looking device from Fuji claims to be a slide scanner, digital camera and video camera rolled into one. It plugs into the video-in port on AV Macs (that's the 660AV, 840AV, 7100AV, 8100AV, 7500, 7600 and 8500) and you can use the Mac's built-in video circuitry to digitise pictures. We reviewed the Fuji FV-10 back in MACFORMAT 35. If you missed that issue, turn to page 115 to get hold of a copy. For more details on the Fuji Digital Imager, get in touch with DirekTek on 0181 845 5969.

While it's unlikely that you'll run out and buy a digital camera just yet, the advantages are obvious. Without the need to buy film or to pay processing costs, once you've paid for the camera, it costs you virtually nothing to take pictures. At the moment, though, you can't quite take a digital camera on holiday with you – unless you take your PowerBook too! **MF**

JARGON BUSTERS

■ CCD (Charge-Coupled Device)
A low-cost, light-sensitive electronic device that converts light into electrical pulses. CCDs are used in scanners and digital cameras to capture images. You'll also find them in low-cost video cameras like the ones used for business security.

■ Flatbed scanner
A scanner on which flat items, such as photographs, printouts and pictures can be scanned. The item to be scanned is placed on a glass surface and covered with a lid. A bright light then reflects the image through the glass and the reflected light is picked up and measured.

■ Resolution
The amount of detail in an image. Resolution is expressed in one of two ways: dots per inch (dpi) describe a scanner or printer's resolution, while pixels are generally used to describe the size of an image on a monitor.

■ Colour depth (or bit depth)
Every picture on your Mac has a colour depth – the number of colours used in the image to display it on screen. Images are often referred to by the number of bits that are used to describe each colour. One-bit images are black and white (line art), eight-bit images have 256 colours or greys, 16-bit images have 32,768 colours, and 24-bit images have 16.7 million colours. The higher the colour depth, the better the image looks – but a better image also takes up more space on your hard disk.

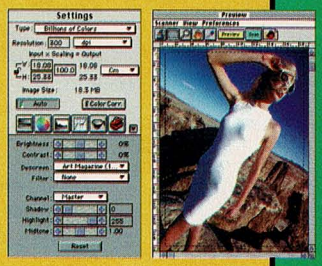
■ Line art
A black-and-white graphic. When pure black-and-white graphics (with no tone) are printed, a half-tone screen isn't needed because the printer doesn't have to approximate greyscale. Therefore, line art should always be scanned at the resolution you intend to print it at. To print on a 300dpi printer, you should scan your line art at 300dpi.

ART CRASH, Germany

MICROTEK SCANMAKER E6: REACHING NEW HORIZONS

The next generation: ScanMaker E6

Dateline: 1996. With its 30-bit colour depth and 600 x 1,200 dpi resolution (max. 4,800 x 4,800 dpi), the new Microtek ScanMaker E6 boldly goes to parts of your images you've never seen before – and all at a very attractive price. With its newly-developed single-pass colour CCD, the E6 scans artwork in one pass with unmatched sharpness, brilliance and colour fidelity. Essentially, it now makes high scanning speed and optimum image quality the accepted norm. Naturally, Microtek's powerful software, ScanWizard, also comes with the ScanMaker E6 to help you to utilise its advantages to the full. What's more, the ScanMaker E6 is bundled with valuable software packages for image processing and text recognition. The PC kit even includes a real multi-functional SCSI-card and SCSI management software. Contact your local dealer, or one of the companies listed below.



Need a few technical details? Well, how about an optical resolution of 600 x 1,200 dpi (can be interpolated up to a maximum 4,800 x 4,800 dpi), 1.07 billion colours with a 30-bit colour depth, single-pass scanning method with rapid colour CCD and a maximum artwork size of 216 x 330 mm. In addition to ScanWizard, the ScanMaker E6 comes complete with various software packages for professional image processing and text recognition. TMA (Transparent Media Adapter) and Auto Scanner & Feeder are available as options. Distributed by: Computers Unlimited.

Watford Electronics Ltd	Technomatic	Mac Warehouse	This is... computer warehouse	PC World	tech direct	DABS DIRECT	inmac
01582 487 777	0181 205 9558	0800 445 000	0181 838 5553	0990 464 464	0181 286 2222	0800 558 866	01928 579 000

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MICROTEK
Scanners • Software • Support

Director 5.0

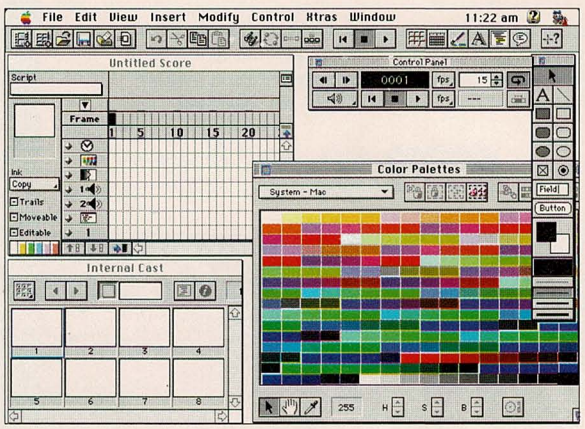
Macromedia has radically redesigned its flagship multimedia authoring tool. A brave step forward or a leap in the wrong direction? Colin Dalziel investigates.

DIRECTOR ON THE NET

Shockwave is a new system for playing back productions made with *Director 5.0* and other Macromedia creativity programs over the Internet, embedding your work within a Web page. See page 14 to find out how it works and how you can use it.

After all the false starts, multimedia is finally becoming a standard way to deliver information, and as a result competition is building in the field of authoring software. *Director* has led the way from the front. It started life in 1989 as *VideoWorks* and grew to become the industry standard in multimedia creation. However, Macromedia has realised that the package cannot stand still if it hopes to maintain its leading position, so *Director* has undergone a major transformation. And for once, this upgrade is not just cosmetic.

It's often difficult to see your own shortcomings, and realising this Macromedia turned to *Director* users for their opinion of the software. This was a wise move – many of the everyday irritations with using the program were brought to light. This enabled the development of an upgrade which has put paid to many of the package's more important annoyances.

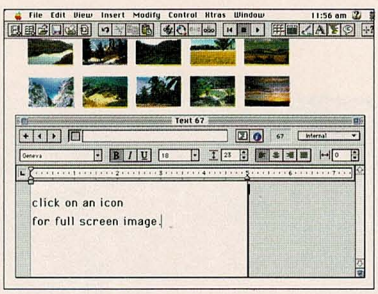


When you have all the windows and palettes open in the new version of *Director*, a second monitor is just about essential to see what you're doing.

Better text and colour

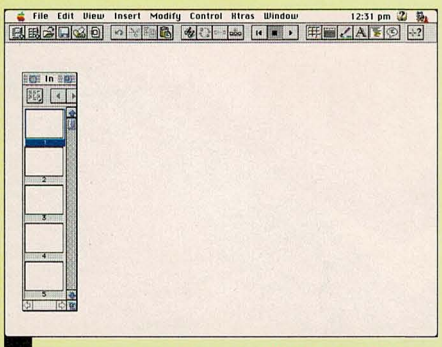
The most useful enhancement is to the way *Director* manages text. Previously text was only handled as a bitmap if it was created in the **Paint** window. This meant there was no easy way to edit text once you had entered it. Using the **Text** window was impractical, because of the need to have the necessary font installed on the Mac of the end-user of your production. This severely limited the choice of fonts for products intended for mass distribution. *Director 5.0* has solved this problem by adding a Text window which automatically converts text files to bitmapped images when the final projector is made. If you need to edit the text, modify justification or change the size of the text box, you can do so at any time in the production cycle. Most importantly, you can now use any font without the need for your end-user to have that particular font installed.

Colour handling has also been greatly enhanced. When you import an image with a bit depth different from that of the project, you are presented with a dialogue box which prompts you for your preferred option. You can choose between changing the colour depth to the current stage, leaving it as it is, importing a custom palette with the image, remapping the colour palette to the system palette or dithering the colours in a new palette to approximate the original colours. If you are importing multiple images you can apply the same colour options to all images at



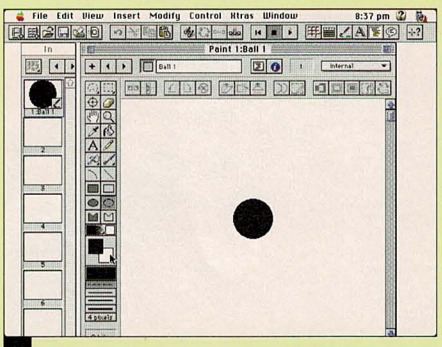
The text handling capabilities of *Director 5.0* are better than ever before.

MAKING A START WITH DIRECTOR 5.0



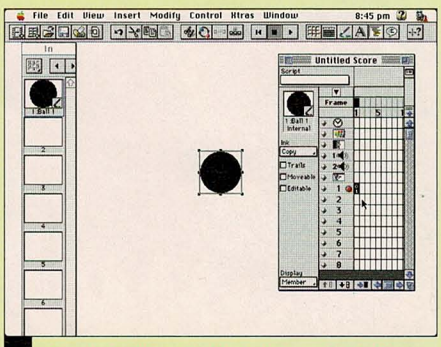
1 To help you make the most of the *Director 5.0* demo on this issue's Cover CD-ROM, we have included a simple tutorial which should introduce you to some of the software's basic features.

When you open *Director* you will see three things: the toolbar at the top of the screen, the **Cast** window, and the **Stage** area at the back of the screen. The **Stage** is where all the action and interaction of your movie occurs. *Director* has a collection of windows which you use to prepare your work. These include the **Paint, Score, Cast** and **Text** windows. To start with, you'll need to draw yourself a ball in the **Paint** window.



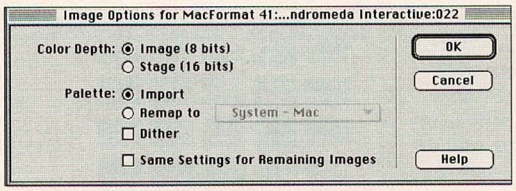
2 There are three ways to open the **Paint** window: click on the **Paint Brush** icon in the toolbar, select **Paint** from the **Window** menu, or use the keyboard short-cut **[command] 5.** With the **Paint** window open, select the **Fill Ellipse** tool from the toolbox and, with the **[shift]** key held down, draw a circle of approximately 20mm diameter. Close the **Paint** window with **[command] W.**

You should now see your newly created ball appear in the **Cast** window.

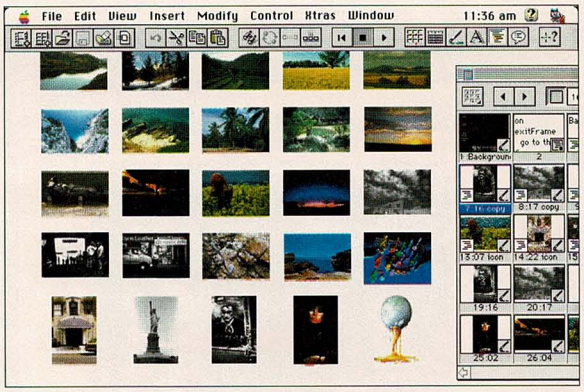


3 Drag the ball from the **Cast** window onto the **Stage.** You will be able to position the ball anywhere you want on the **Stage,** so put it near the middle. If you now open the **Score** window by pressing **[Command] 4** you will see the ball item appear in Position One in Frame One of your new movie.

Try our tutorial using the demo of *Director 5.0* on the Cover CD



Better colour handling options and batch processing make importing media – even if they're different types and if you're getting them from different folders – much easier in *Director 5.0*.

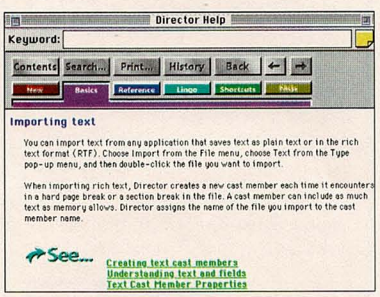


The new Toolbar of shortcuts along the top can get in the way if your monitor space is already limited. But it beats having to learn a whole new set of keyboard commands...

once. You can also set the end-user's monitor easily, by selecting an option in the **Preferences.** So if you have created a movie which is optimised for 256-colour playback, you can ensure your project maintains a consistent quality regardless of the end-user's monitor settings.

If you have used a previous version of *Director,* you'll notice the addition of a toolbar at the top of the screen in version 5.0. This gives you access to 24 options in a similar way to most recent word processors. The toolbar makes the interface look as if it was designed for a PC Windows-based machine, but if you're a die-hard Mac fan you can easily turn it off. In a program which already has its fair share of monitor hogging windows, the toolbar does seem a rather pointless feature – all of the options are accessible via keyboard shortcuts or from the usual pull-down menus – and as it cannot be customised, the toolbar's usefulness is rather limited. If you're like most users, you probably find that you'd prefer user-defined function key support.

Director 5.0 has one of the most impressive on-line help features of any package around. The complete Lingo Dictionary is included in an on-line format. This enables you to search commands and Lingo options and, most usefully, copy and paste the examples into your project. This means that converting standard code into your own has become very simple. What's more, where the help system used to crawl along in version 4, here it has had a dramatic and very welcome overhaul.


Director Help
Keyword:
Contents
Search...
Print...
History
Back
New
Basics
Reference
Lingo
Shortcuts
Index
Importing text
You can import text from any application that saves text as plain text or in the rich text format (RTF). Choose Import from the File menu, choose Text from the Type pop-up menu, and then double-click the file you want to import.
When importing rich text, Director creates a new cast member each time it encounters a hard page break or a section break in the file. A cast member can include as much text as memory allows. Director assigns the name of the file you import to the cast member name.
See...
Creating text cast members
Understanding text and fields
Text Cast Member Properties

The on-line help is faster, with in-depth data and cross-referencing to help you find what you need.

Get in line at the back there

New enhancements also include a grid and alignment option. You can place a grid on your stage which enables you to snap objects to it, making positioning objects far easier. The **Align** toolbox enables you to line up selected objects by any parameters you wish – so, if you want the tops, middles or sides of objects to line up, you simply define the criteria you need. You can also position objects by entering co-ordinates in the **Cast members properties** dialogue box, giving you complete control over the position of any object in your project.

The multiple import option is a new feature which takes the strain out of getting media into your movie. Rather than importing either individual items or all items in a folder, you can now select each object you want to import via a dialogue box. The objects can be from more than one folder and of different file types. Once you have selected the items you want, you simply import them all at once with the click of a button.

To extend the capabilities of *Director*, version 5.0 introduces support for *Xtras*. These are third party plug-ins which add specialist functionality to your projects. Included are transitions, Lingo enhancements, specialist cast members such as databases, and tools which simplify project construction. In addition to *Xtras* the new *Director* also supports *Adobe Photoshop* plug-ins and *Adobe Premiere* plug-ins for use in the paint window and as transitions.

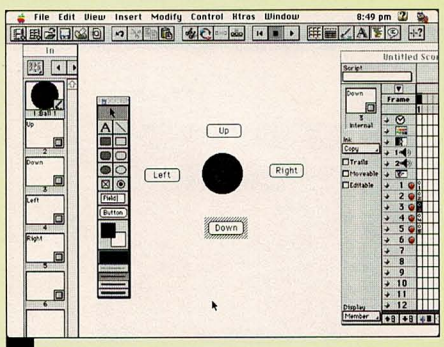
If you've used *Director* before you'll be pleased to see the inclusion of new debugging tools. The debugger comes in four parts: the **Message**, **Debugger**, **Watcher** and **Script** windows. Using these four you can follow your Lingo commands and see the results of their actions, enabling you to track down any problems that may exist in your scripting.

The side of *Director* which is still a

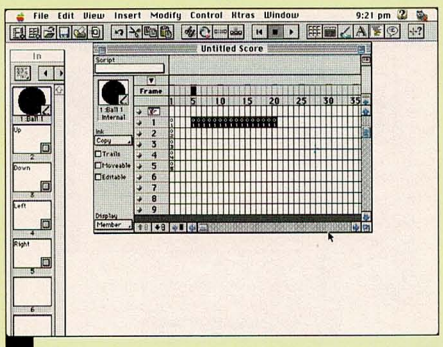
Continued on next page

BITTEN BY THE BUG

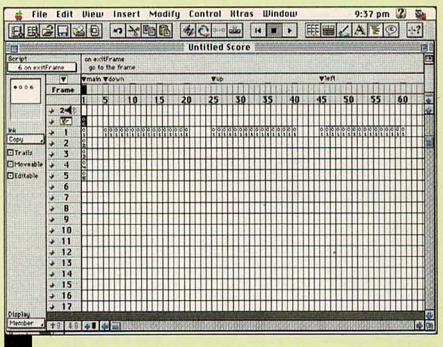
If you want to know more about multimedia authoring, check out MACFORMAT 36, an issue dedicated to the world of multimedia. For more details on how to get hold of your copy, turn to page 115.



4 In this simple interaction you want to give the end-user the option of clicking on a button to move the ball in a direction. To generate some buttons open the **Tool** palette by pressing **[command] 7** and select the **Button** tool. Clicking on the stage creates a field in which you can enter text. Make four buttons for the four directions left, right, up and down. These buttons are rather basic looking but we'll stick with them for this example. If you want to, you can create more artistic buttons for yourself in the **Paint** window. Place the buttons around the ball in appropriate positions. The next stage is to make the ball move when the buttons are clicked.



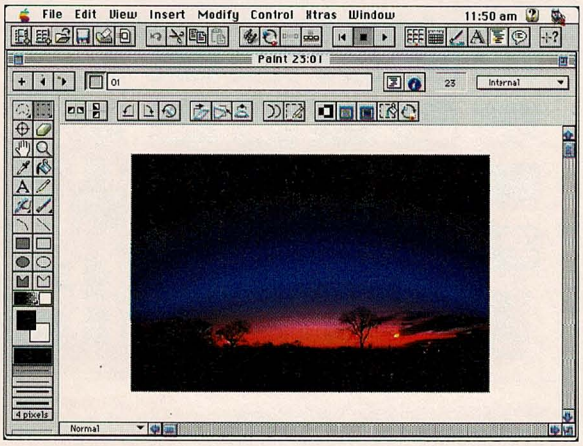
5 Move to the **Score** window. You'll see five objects. Select the ball **Score** window by clicking on the first one. **Copy** the ball with **[command] C** and **Paste** a copy into the fifth frame in the score and another into the 20th. Click on frame 20 – the buttons have disappeared because you have only copied the ball. Select the ball from the stage and, with **[shift]** held down, drag it to the bottom of the screen. Moving back to the **Score,** select the frames from five to 20 – two with the ball in, and all the empty frames. Select **In Between** from the **Modify** menu (**[command] B**). This automatically generates the positions of the ball between the middle and bottom of the screen.



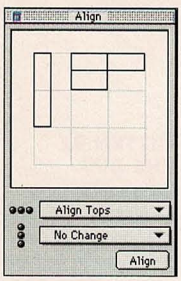
6 Repeat this process for each of the directions you want the ball to move, placing each of the animation sequences in a clear part of the score window by starting at frames 25, 45, and 65 respectively. Above the word **Frame** in the **Score** window you will see a small triangle. You can drag this along the top of the **Score** window and place it as a marker in your movie. Drag one and place it above the first frame. You will need to name the marker, so type in **main**.

Add a marker to the first frame of each of the moving ball sequences and name them **up**, **down**, **left** and **right**.

Continued on next page



You'll need a good graphics package, because the **Paint** window is still really only suitable for the most basic retouching of your images.



The **Align** tool makes lining up numerous objects a straightforward task.

disappointment is the **Paint** window. It still uses pretty much the same tools which came with the original *VideoWorks*. The lack of colour support above 256 colours is a limiting factor which really should have been addressed. While it is true that the **Paint** window is only designed for basic retouching, it is surprising that Macromedia has not developed a more versatile paint option, given that the powerful imaging software *xRes* comes from the same stable. Perhaps they just want you to buy that too. (*xRes 2* was reviewed in MACFORMAT 38, where it scored 91% and a Classic award. For more information about this superb package, call Computers Unlimited on 0181 200 8282.)

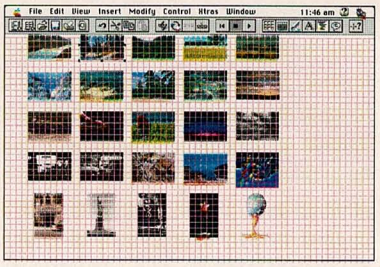
The only worthwhile enhancement to the **Paint** window is the addition of the **Onion Skin** option. This feature enables you to overlay cast members as transparent images to see the progression of a animation.

The major annoyance with the upgrade is the changing of the keyboard shortcuts. *Director* has never fully complied with Apple's standard keyboard shortcuts. In version 4, for example, **[command] P** plays a movie rather than printing it. If you've finally managed to get to grips with these unique controls, now you'll have to start all over again and learn a new set. Importing objects has changed from **[command] J** to **[command] R** and there seems to be no logic in the change, especially as **[command] J** is no longer used at all. Many of the shortcuts involve key combinations of four keys, leading to a ridiculous situation where untangling your fingers actually takes longer than going to the pull-down menu. Possibly the first thing you should buy after *Director 5.0* is a copy of *QuicKeys* so you can define your own shortcuts! The total lack of support for AppleScript is also a big oversight. Youll find yourself using many functions repeatedly, so the inclusion of scriptability would be a big help.

The price of greatness

At £350 upgrading from a previous version of *Director* is not exactly cheap, but you will find it worthwhile for the text and colour handling capabilities alone. Macromedia has taken a giant leap forward with this update. It irons out many of the limitations and problems from previous versions, thanks mainly to the close contact between the company and multimedia developers. It's good to see a major software company listening to users and responding. The result is, for the most part, a sound upgrade which will enable any user to work more quickly and with greater control over projects than ever before.

The only major shortcomings of *Director* remain the **Paint** window and strange key shortcuts. If Macromedia can sort these out, *Director* will be a very hard act to beat. **MF**



To make placing objects on the stage easier, a grid option has been added to the stage window.

DIRECTOR 5.0

Price: £1,174. **Out:** now.
Upgrade: £350.
Requires: Quadra or better, 8Mb of RAM, System 7.1, 13-inch monitor, 40Mb of hard disk space.
Contact: Computers Unlimited on 0181 200 8282

FEATURES 82%
Packed with features and power, but the clumsy *MacPaint*-like paint window still needs attention.

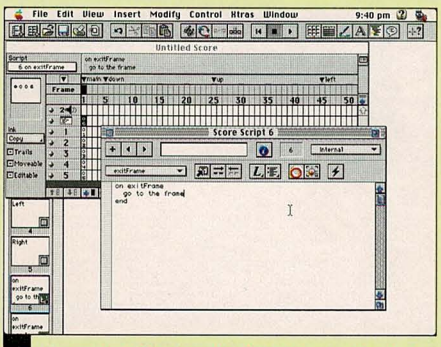
EASE OF USE 85%
Fine for new users, but confusing if you're upgrading or are used to standard Mac commands. Great help system.

DOCUMENTATION 92%
More compact manuals than previous versions, but no less information.

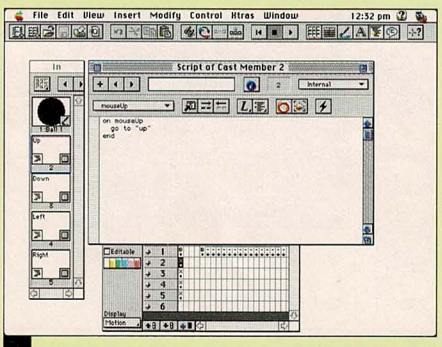
VALUE FOR MONEY 78%
Expensive, especially for the upgrade, but the new features justify the high cost for anyone who uses them often.

MACFORMAT RATING 85%

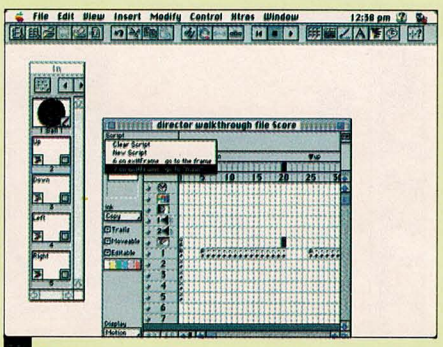
MAKING A START WITH DIRECTOR 5.0 (CONTINUED)



7 If you select **Play** from the Control menu, the whole sequence will play through without stopping. You now need to add some basic Lingo programming to control your movie. The **Lingo channel** is the set of frames above the objects in your movie. Double click on the first **Lingo** square to open the **Script** window. You will notice a few commands have already be entered for you. **On exitframe** means 'when the movie goes to the next frame, apply the command'. Type in **go to the frame** and close the window. This causes the **Play** head to stay on this frame until another command is performed.



8 Next you need to make the buttons active. Select the **down** button and from the **Modify** menu choose **Cast member, Script** and type in **go to "down"** (it is important to include the quote marks as this tells *Director* it is a marker you are moving to). Repeat this for each of the buttons, adding the correct name for each of the markers. Finally, you must send the movie back to the Main screen after it has played. Select the **Lingo** window above the last frame of the 'down' animation, and click and hold on the white box entitled **Script** in the **Score** window. Select **New** from the options which appear. Type in **go to "main"** and close the script window.



9 You can now add this command to each animation by selecting the Lingo box above each of the last frames and clicking on the white **Script** box. There is no need to create a new command each time you want to send the movie back to the start – simply select the **go to "main"** option in the list of commands and it will automatically be entered into your selected frames. You are now ready to run your movie. Select **Play** from the **Control** menu or hit **[command] [option] [shift] P**, to play your movie with the windows hidden. When you want to stop the movie, press the **[escape]** key or **[command] [period]** (full stop).

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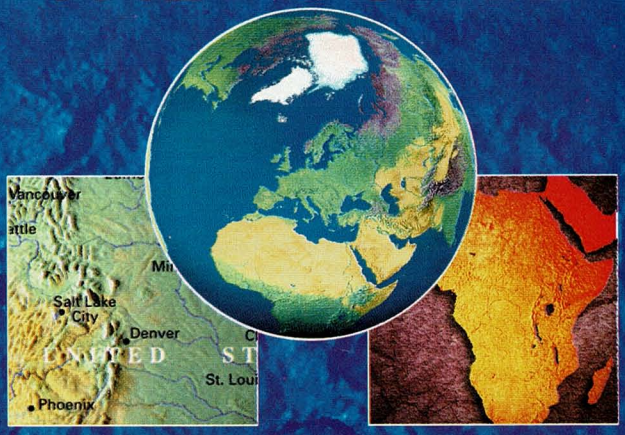

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Cute name? That's not all. Rod Lawton's snogging days may be over, but he still found plenty in this innovative new spreadsheet application to set his pulse racing...

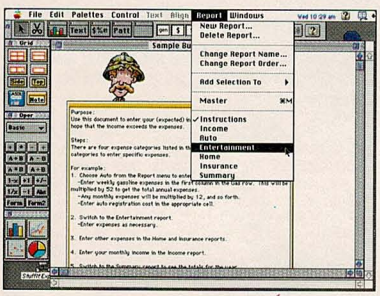
PATCH IT UP

If you have a Mac II, IIx, IIcx or SE/30 and want to use *Let's KISS*, you'll need the *Mode32* software patch, available free from Connectix. This improves data handling on these older Macs so they can cope with the demands of 32-bit software.

Name the single biggest thing to have happened to spreadsheets since they were first invented. There isn't one, is there? They started as a rectangular grid of cells which could be built up into elaborate inter-related calculations, and that's still what they are. They look as interesting as louvre doors and are as much fun to work with as a telephone directory.

Well, now something *has* happened to spreadsheets. And *Let's Keep It Simple Spreadsheet* may indeed be big.

When a software company – especially one like Casady & Greene, maker of respected utilities like *Conflict Catcher* and *InfoGenie* – comes up with a radical new angle on a tried-and-trusted application design, you start out suspicious. Surely there can't have been that much wrong with the original design if it stayed unchanged for years? There are two possibilities: either such a radically new angle is a cheap gimmick hiding reduced flexibility, power and speed; or it's taken this long for someone to have the spark of inspiration needed to bypass an evolutionary dead end. Read on, then make up your own mind.

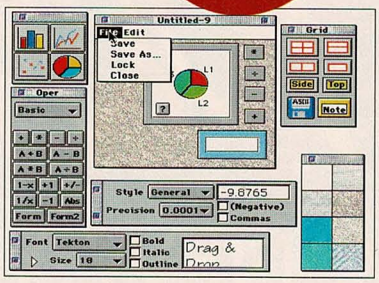


You can create different views of your data in a series of reports. This report contains instructions on how to use the document – other reports can be designed to provide detailed data input, graphical analysis and quick summaries.

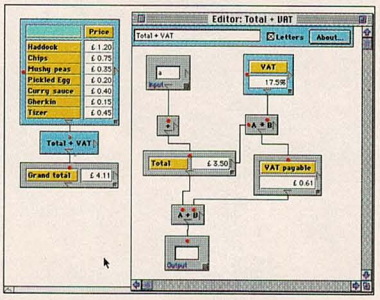
Let's KISS is a graphical spreadsheet program. Instead of working with an endless expanse of uniform cells, you set up small grids and link them with operators – formulae that carry out any calculations you need performed. This has obvious advantages. For a start, your data is not floating aimlessly in the middle of a largely empty grid. And because the data, operators and output are linked by lines, you can see the mathematical relationships between them. And with input and output data separated into discrete grids, it's easier to add labels.

If you use spreadsheets already, you will soon pick up the basics. You still have rows and columns and you still apply formulas to generate results. Here, however, your input data is in one box, your formula is a little icon and your output data is another box. It's easy to set up and, more importantly, easy for a third party (such as your boss or an important client) to grasp instantly.

It's made easier still by the Report feature. Borrowing ideas from database design, *KISS* enables you to view your information in many different layouts, or 'reports.' If your Master page (your principal working area) contains acres of complex budgetary calculations that will leave your bank manager with a migraine, you can create a Summary report containing just an 'income' grid and a 'profit/loss' grid. You can still alter the raw data to try different 'what if' scenarios, but all the work goes on behind the scenes. And if you want to butter them up with an effective display showing a grid of clients and anticipated revenues, together with a pie chart, you can do so easily.



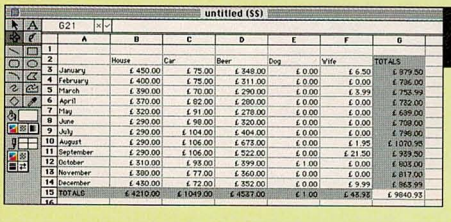
If you like palettes, you've chosen the right software. You can even create your own (complete with custom background pattern), dragging buttons straight off the other palettes or using items you've created or added to your documents.



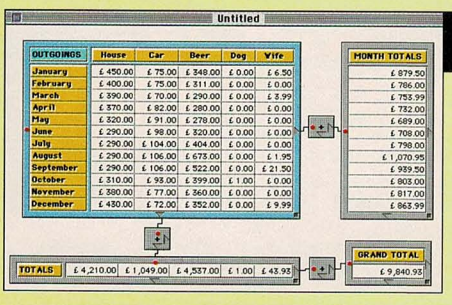
A space-consuming set of calculations can be 'crunched' into a single 'custom operator'. If you double-click on the operator you can see and edit the original calculations. You can even 'nest' custom operators within other custom operators.

The Reports feature fixes one of the long-standing moans about traditional spreadsheet design – that you can't see the wood for the trees. Some attempts have already been made to alleviate this, such as *Excel's* 'outlining' functions, but compared to *KISS's* reports, they feel as intuitive as the

THERE'S AN EASY WAY AND A HARD WAY...



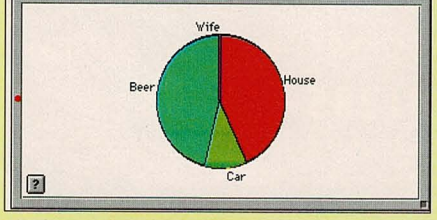
1 Tabulating your expenses is easy enough in a spreadsheet like *Excel*. It only takes a few seconds to apply a 'SUM' formula at the bottom of the columns and to the right of the rows to tot up totals for each category and each month, and then to arrive at a grand total. Unfortunately, the result is hardly dynamic and comprehensible.



2 It doesn't take much longer to type your figures into *KISS*, and your cashflow is much easier to figure out once it's been entered – calculated figures are neatly separated from data you input by hand, and you can see the operators that have been used. Each of these grids and operators can be moved around the screen at will.

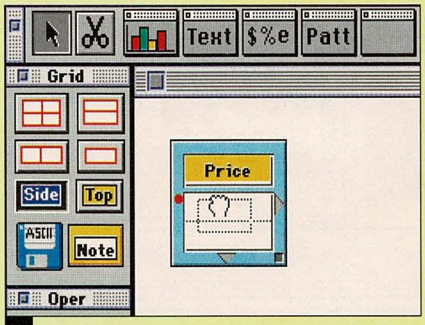
OUTGOINGS	House	Car	Beer	Dog	Wife
January	£ 450.00	£ 75.00	£ 348.00	£ 0.00	£ 6.50
February	£ 400.00	£ 75.00	£ 311.00	£ 0.00	£ 0.00
March	£ 390.00	£ 70.00	£ 290.00	£ 0.00	£ 3.99
April	£ 370.00	£ 82.00	£ 280.00	£ 0.00	£ 0.00
May	£ 320.00	£ 91.00	£ 278.00	£ 0.00	£ 0.00
June	£ 290.00	£ 98.00	£ 320.00	£ 0.00	£ 0.00
July	£ 290.00	£ 104.00	£ 404.00	£ 0.00	£ 0.00
August	£ 290.00	£ 106.00	£ 673.00	£ 0.00	£ 1.95
September	£ 290.00	£ 106.00	£ 522.00	£ 0.00	£ 21.50
October	£ 310.00	£ 93.00	£ 399.00	£ 1.00	£ 0.00
November	£ 380.00	£ 77.00	£ 360.00	£ 0.00	£ 0.00
December	£ 430.00	£ 72.00	£ 352.00	£ 0.00	£ 9.99

3 And to clean the display up even more, you can create a special graphical report. Ordinary spreadsheets can create graphs too, but they can't offer a simple layout like this, displaying just the raw data and a pie chart without the assorted calculations in between.

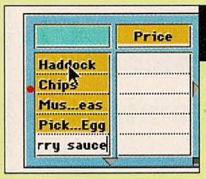


FREE FROM TAXING ENDEAVOUR

Here's how *KISS* handles an everyday calculation – totalling a list of items and adding VAT. Say you took your PowerBook to the chip shop...

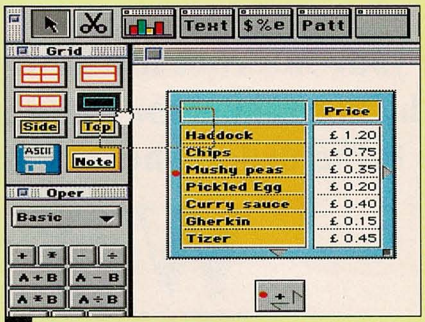


1 First of all, you need a grid to input your list of items and their prices. We've already added a top label and now we're adding a side label – to do this you simply drag the label type you want from the palette and drop it onto the grid.

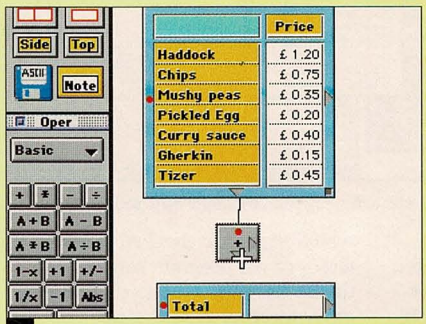


2 Now just click in the first label cell and start typing, hitting **[return]** between each item, until you've entered them all. *KISS* will keep adding rows as long as you keep hitting the **[return]** key (you don't need to specify the grid size before you start).

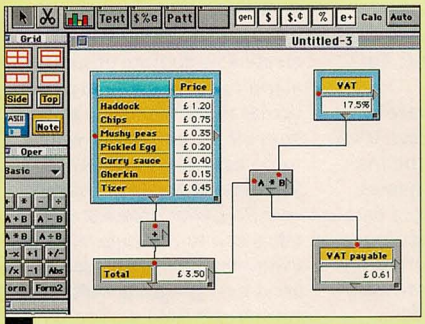
3 Some of your labels may be too long to fit in the width of the column. That's easy to fix – once you've finished typing, hit **[command] G** to automatically re-size all the columns in the grid to fit the widest item.



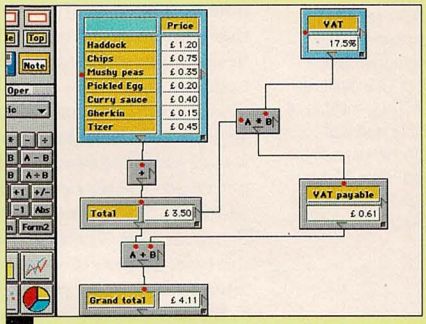
4 We've now added all the prices and we want to calculate a total. We've already dragged a '+' operator from the **Operators** palette and now we need to drag an empty single-celled grid onto our page to hold the result.



5 All we have to do now is click first on one of the data grid's output arrows and then on the '+' operator, then click on one of the the operator's output arrows followed by the output grid to connect them – and the total will magically appear.



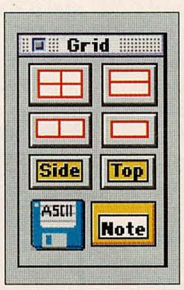
6 But now we've got to add VAT. For this we need a new input grid containing the relevant VAT rate and use an 'A*B' operator to calculate the VAT due. This type of operator needs two input grids, not just one.



7 From here it's a simple matter to use an 'A+B' operator to add two grids together to get the total amount due. Now, how about a row with the chip shop proprietor as to whether VAT is indeed due on savoury comestibles consumed on the premises?

Great Britain Train Timetable.

Reports aren't the only way to condense data. *KISS's* designers are highly aware of the limited screen space available on most Macs, and while traditional spreadsheets enable you to compile macros for complex functions or series of actions, *KISS* goes one better. You can select a set of grids and operators (simply by shift-clicking) and then save them as a 'custom operator'. You can give this custom operator a name of your choosing, and it then appears as a single, small icon. You plug your data into one end and the finished calculation emerges at the other. If you need to modify your operator, simply double-click on its icon to view its components in a new window. And yes, you can 'nest' operators within operators...



KISS is smart enough to guess the type of calculation you want to perform from the output grid you choose. And what's more, output grids are resized automatically according to the data supplied.

In fact, you might observe, this is just like *Excel's* outlining feature, but now it's graphically based and about a thousand times better.

Many people will find the interface about a thousand times better than that of the traditional spreadsheet, too. Everything is based on palettes and drag-and-drop editing. To add a new grid, drag the style you want onto your page. To add labels and headings, drag the appropriate icon onto your grid. To add an operator, choose it and drag it onto the page... and so on. And if you regularly use a custom operator you've designed, or find yourself using the same piece of clip-art or even the same text box regularly, create a new palette, drag the items you want onto it and store it for future use.

KISS is a few ideas short of a full spreadsheet feature list, though. It can handle percentages, currency and scientific notation, but doesn't handle dates and times. And although you can manually type your own formulas into custom operators, you can't quote direct cell references – more complex spreadsheet operations can involve a lot of tedious point-and-clicking.

And yet as a piece of software design, *KISS* is so far ahead of traditional spreadsheets, and so 'right', that you wonder no-one thought of this graphical, modular approach sooner. It might be because developers were complacent, it might be because no-one thought it possible; but here is a spreadsheet application with power, flexibility and – most important of all if others are to use, view or modify your data – breathtaking simplicity. It's a classic and no mistake. **MF**

LET'S KISS

MACFORMAT Classic

Price: £153. **Out:** now.
Requires: LCII or better, System 7, 8Mb of RAM.
Contact: Softline on 0181 401 1234.

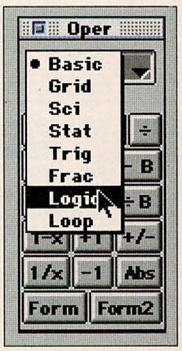
FEATURES 97%
Lacks some advanced functions but makes up for it with excellent reports feature and custom operators.

EASE OF USE 95%
The construction phase is slightly slower than that of its rivals, but the subsequent usability (both data entry and viewing) is quite superb.

DOCUMENTATION 80%
Straightforward and clear. Lots of pictures and walk-through examples.

VALUE FOR MONEY 75%
You're not paying for power, but sheer design – this is a spreadsheet that won't turn your brain to mush. And they'll give you £15 cash back when you register!

MACFORMAT RATING 91%



The choice of operators looks limited – until you use the pull-down menu and find a very wide range indeed.

WebArranger

Is your Internet life getting a bit disorganised? Why not take a look at a program that promises to bring order where there is chaos?

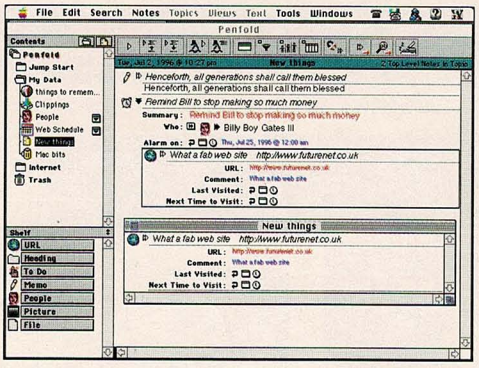
ALTERNATIVES

If you don't have £81 but feel the need to organise your surfing, try the shareware application *URL Manager*, reviewed in MACFORMAT 38. This little program keeps track of all those tiresome URLs – a kind of sophisticated bookmarking system. If you missed issue 38, turn to page 115 for details of how to get hold of a copy.

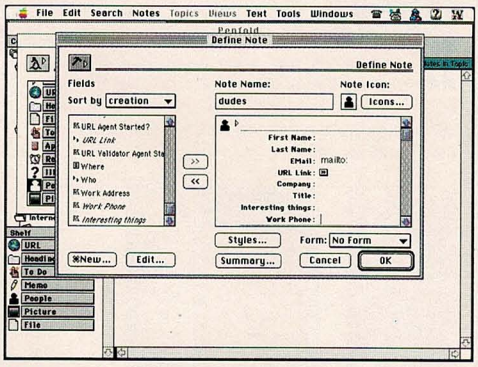
What state's your Internet setup in? If it's anything like mine, it's in pretty much of a mess. I've got hundreds of bookmarks in *Netscape*, e-mail addresses scrawled in the most unusual places and more Post-it notes stuck to the side of my monitor than there are pounds owed by the Duchess of York. Needless to say, the note you need is always the one that's fallen off, dropped behind the desk and been used by rodents for bedding material...

WebArranger from CE Software is designed to solve these problems. It's a sort of personal organiser for the Internet which enables you to file names, addresses, URLs and other bits of data. However, this is rather understating the case. Thanks to its object orientated design, you can use *WebArranger* to file practically any form of data.

This means that you can input text, graphics and other bits in practically any format you want. The program comes with a number of pre-defined documents, but you can easily define your own, establishing your own combination of categories and structures.

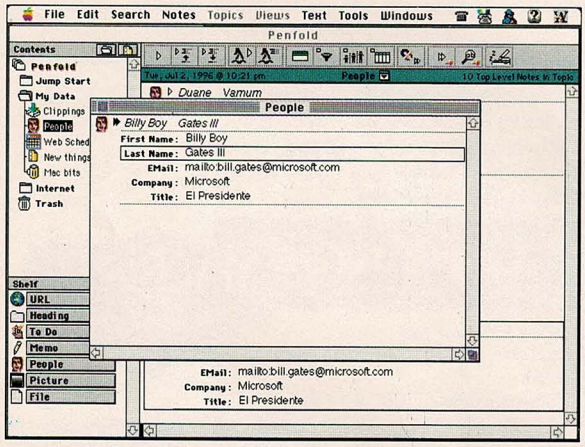


You can store your data in a number of pre-arranged formats...



Or, if you prefer, you can define your own, and filter stored data.

Let's picture a typical scenario. You want to check a Web page (say, the Dilbert Zone) every day. In *WebArranger* you could either create a to-do note or set the alarm to remind you at a particular time. When the alarm goes off (or you check your to-do notes), you simply hit **[option] R** and *WebArranger* launches your browser and takes you to the page. Another example: somebody mails you about a great new program which you really want to get hold of. You try FTPing it, but the FTP site is busy. So, you grab the location of the file using the built in grabbing tool, which enables you to grab text or graphics and paste them straight into *WebArranger*. You then tell the FTP agent to get hold of it and you get on with something more interesting. In the background, the FTP agent keeps retrying the FTP site until it gets hold of the file, when it notifies you that it has finished.

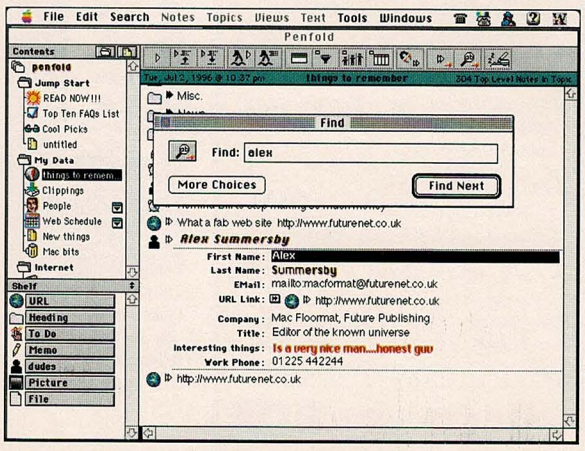


Among other things, you can use *WebArranger* as an address book.

There's also a variety of other tools, not least of which is *WebWhacker*, a rather groovy program which downloads Web pages in one burst and enables you to peruse them at your leisure. This can be an incredibly useful tool, although it does require some caution. If the Web site you set it to 'whack' (as the manual puts it) is particularly large and you set *WebArranger* to whack the entire site, you could end up downloading all sorts of stuff that you aren't interested in.

Fortunately, it can be configured to collect pages to a certain depth. For instance, if you set it to whack to a depth of two, it will download the page you refer to – usually the index page – and the next two levels of pages. So, you'll get the pages referred to in the index page and the pages referred to in those pages. Once the pages have been whacked, you can browse them from disk without having to go back on line.

Also included is *URL Agent*, a very useful little program which can be set to monitor Web pages that you're interested in and notify you when they are updated. The frequency with which pages are checked can be altered, or the program can be run in the background when you're doing other Internet-type things.



The software comes complete with a powerful search facility.

Overall this is a very useful package, but it does do things in a slightly odd way. The object-orientated approach makes it extremely flexible, but it can also be rather confusing. It's not as easy to use as an organiser such as *Now Up-to-date*, but then it does take a rather different approach. As it is, it does a very good job of enabling you to organise your Internet related data, and it has some really useful touches – the URL & FTP agents plus *WebWhacker* could almost justify the price of this package alone.

BILL BOW

WEBARRANGER

Price: £81. **Out:** now.
Requires: any Mac, 12Mb of RAM.
Contact: CE Software 01277 202450.

FEATURES — 85%
A veritable cornucopia of features and a number of powerful tools for searching and organising data.

EASE OF USE — 75%
Somewhat confusing to begin with, but easy to use once you work it out.

DOCUMENTATION — 75%
Fairly basic, although it does include an excellent book of cool tricks and a 'Jump start' manual.

VALUE FOR MONEY — 70%
Not cheap, but you get some extremely useful features for your cash.

MACFORMAT RATING — 85%

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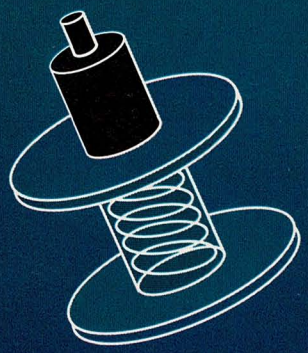

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TextBridge Pro '96

You could save yourself hours of tedious re-typing using optical character recognition software. So is *TextBridge Pro* the ultimate OCR solution?

IT'S IN THE SCRIPT

TextBridge Pro supports AppleScript – it's both scriptable and recordable. You could (in theory) get it to recognise when a fax has arrived and automatically turn it into an editable text file. There's even full documentation for the AppleScript commands in the manual.

OMNIPAGE PRO

OmniPage Pro, the big brother of *OmniPage Lite*, was reviewed in MACFORMAT 19. If you need serious OCR power, it is in the same league as *TextBridge Pro* and may be worth considering. Version 6.0 is out now at £699, and version 7 has just been announced. For more information, call Computers Unlimited on 0181 2008282.

Optical character recognition (OCR) is one of those technologies that shouldn't work at all – how can a piece of software recognise real words from the mass of squiggles on a printed page? Nevertheless, thanks to some impressive programming, OCR software really does work.

The key to success is the quality of your original document and, to a lesser degree, the quality of your scanner. If there isn't sufficient resolution in the first place, or the original copy is smudged and dirty, the character-recognition system will fail.

In our tests, we used a Visioneer PaperPort Vx, which can output good quality scans at 300dpi, and which gives typical desktop scanner performance. The PaperPort comes with *OmniPage Lite*, an entry-level OCR application, so it was interesting to compare it with *TextBridge Pro*.

And there is a big difference. While *OmniPage Lite* is fine for clean text in simple layouts (business correspondence, for example), it was beaten by complex multi-column layouts, graphics and tables. *TextBridge Pro* comes with a whole raft of features designed to cope with all of this and more.

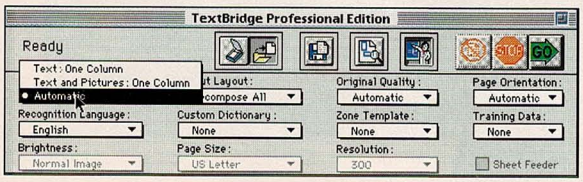
Given a medium-quality photocopied press release to process, some software will struggle to make sense of some words. *TextBridge Pro* fared better.

What you see is what you get

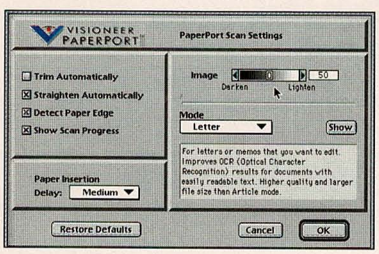
For a start, it handles graphics as well as text, reproducing them as line art. Even more impressively, it not only reads multi-column layouts, but exports them in editable form too.

In practice this isn't as as useful as you might think. *TextBridge Pro* can only output editable multi-column layouts in *Word 6.01* or *WordPerfect 3.1* format, which means this particular function will probably be of little use to most Mac owners. It will also only work on moderately complex layouts – most news stand magazine designs will simply confuse the software.

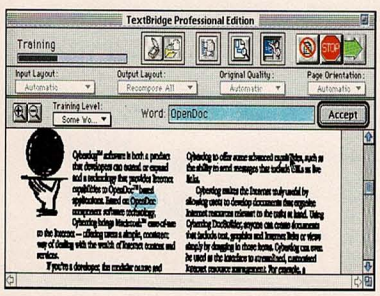
The answer to this is *TextBridge Pro's* 'preview' tools. These enable you to draw frames ('zones') around the areas of the page you want to carry out OCR on. You can include or exclude images, and you can create many zones on a single page. You can even save the 'zone layouts' for use on other, similarly designed documents.



You can leave *TextBridge Pro* to run automatically, but if you do want to take control you can change a range of settings in your search for the best results.



Unreliable results? Try changing your scanner's brightness setting to improve the contrast and cut down the 'noise' – smudges, marks, print showing through the paper from the other side and so on.



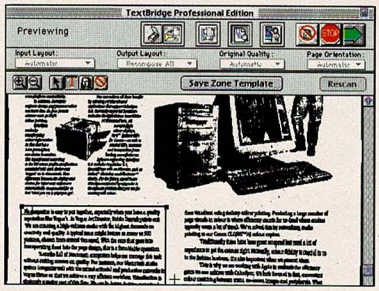
Using the interactive training mode, you can make *TextBridge Pro* 'learn' the character shapes and words peculiar to your document. And you can save this data to use it again.

Learn as you go

So far so good. But even OCR software as expensive as this (sorry, as 'professional' as this) has its limitations. If your original document is only of marginal quality, you can expect to have to make corrections to the text file that *TextBridge Pro* generates.

The program does 'learn' the character shapes of the scan and improve its accuracy as it works through it, but you can get involved in this process too using the 'interactive training' mode. Here, the software prompts you with every dubious word and you can choose to correct or accept it. *TextBridge Pro* 'learns' the corrections you make, increasing its own accuracy as you work through the document.

And just to complete the *TextBridge Pro* experience, you'll find a new item in your Apple Menu – **Instant Access OCR**. Launch your favourite text editor, open a new document, select this menu item and *TextBridge Pro* will launch, check a chosen page scan and then automatically paste the text into your empty document.



Complex magazine-style layouts would defeat the smartest OCR package, but *TextBridge Pro's* 'zones' let you pick out individual text blocks to process. You can create many zones on each page to generate a single, continuous text file.

This is a very powerful, very well-designed OCR application and it's hard to see how it could be improved. But the limiting factor is always going to be your original. Is the text large enough? Is the printout 'clean'? Is the layout simple enough that you won't have to spend hours defining OCR 'zones'? And just because you find a grotty fax perfectly legible, it doesn't mean to say that *TextBridge Pro* will – or that you and the software together will be able to generate a text file any faster than a competent copy typist.

If you need to file or index dozens of pages of different types during a week, then *TextBridge Pro* is a sound investment – it makes OCR as reliable and painless as it can be. But if you only need OCR occasionally, you'll find yourself spending a lot of cash for relatively little gain.

ROD LAWTON

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Very good, but more export filters for common Mac word processors like *ClarisWorks* would be useful.

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You can leave everything set to automatic, but start poking about beneath the bonnet and there are lots of variables.

DOCUMENTATION 73%
Mostly straightforward and easy to understand, but sometimes lapses into heavyweight jargon without warning.

VALUE FOR MONEY 65%
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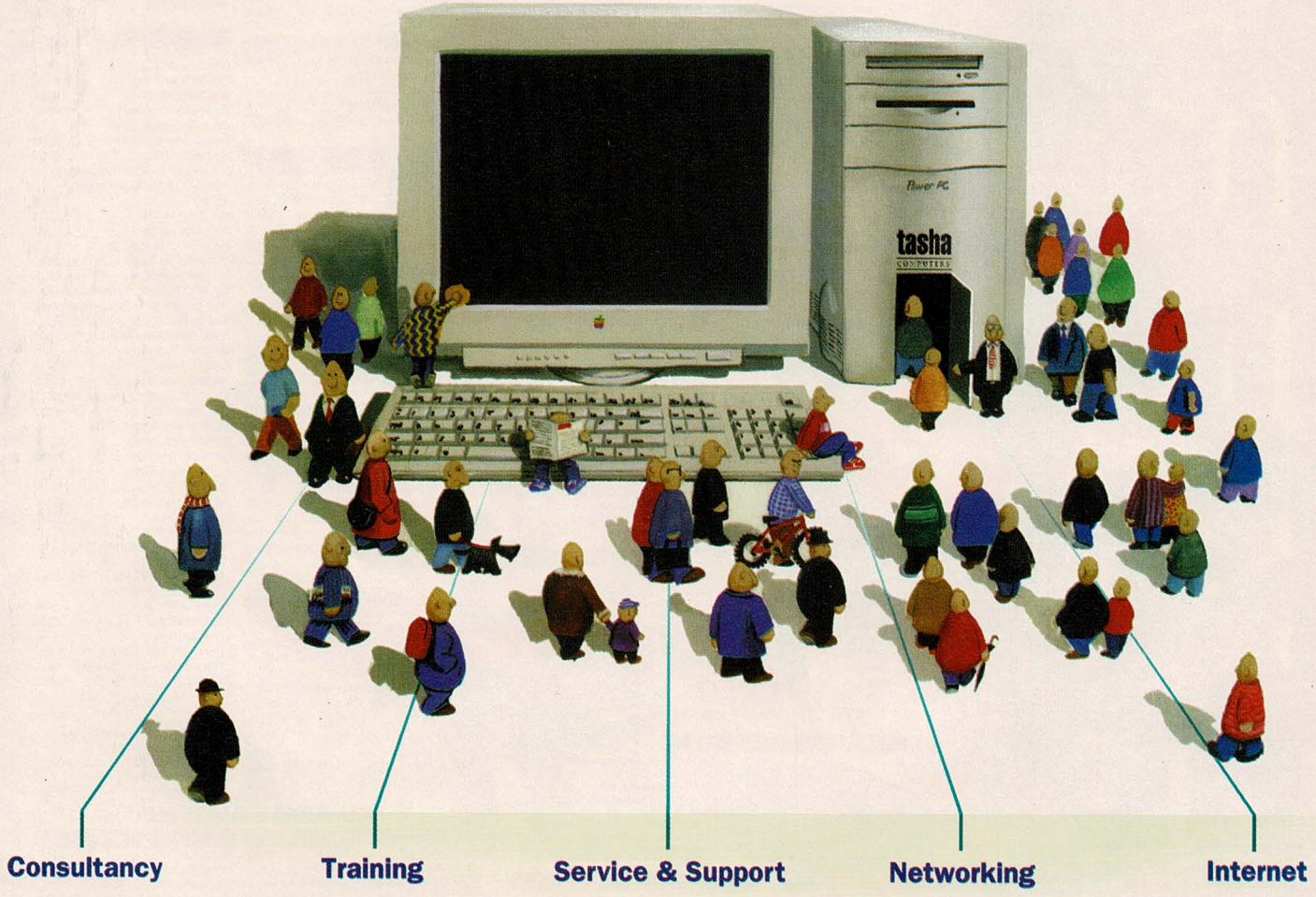

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Does it add up?

Derek Smith hides his dunce's hat to look at maths multimedia and find out if it measures up to the National Curriculum.

NATIONAL CURRICULUM

All the margin notes here are taken from Key Stage 1 of the National Curriculum for mathematics.

Computers lend themselves naturally to maths. After all, they're logical binary beasts. Adding and subtracting is what they do best, so surely they're going to be the ideal tool for teaching maths to your kids.

Unfortunately, maths has moved on from just learning your times tables. You may have thought that maths was as constant as a Conservative government, but it seems not. Along came the National Curriculum and pointed out that maths is so much more. It's about shapes, spaces, possibilities and chances. Today's school trips may as well include a day out at Ladbrokes.

This gives the programmers of educational games and 'edutainment' a new challenge. Gone are the days of trying to make 56 divided by 8 sound exciting. Now they have to work out ways to ask approximately how many mice does it take to scare an elephant, or just how many broken promises will an election manifesto contain if a government lasts four and a half years.

Surprisingly, some of the programs we put through their paces for this group test have managed to achieve this difficult goal. The age range for these titles is a little more diverse than that of the English programs we looked at in MACFORMAT 39, but most cover Key Stages 1 and 2 of the National Curriculum – ages 5–11.

Peter's Numbers Adventure

If A is for Apple then 1 is for... er, one.

MOVEMENTS

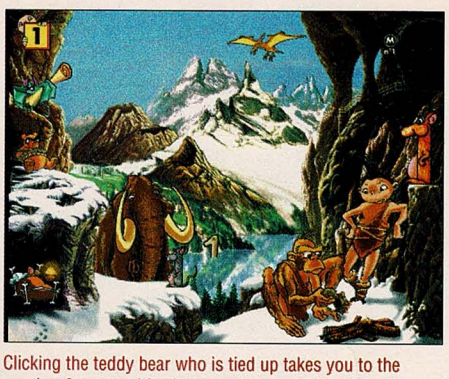
Pupils should be given opportunities to recognise movements in a straight line – that is, translations and rotations.

Peter is back from his *Alphabet Adventure* in MACFORMAT 39 to take part in a *Numbers Adventure*. Alas, he should have saved his energy and learnt computer programming instead.

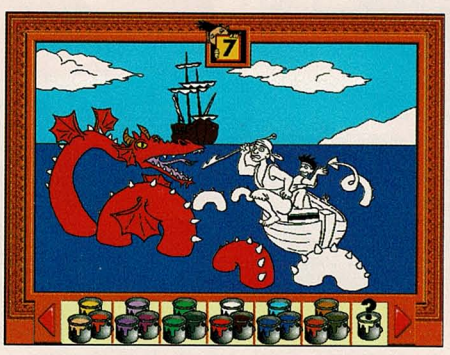
In the format of an ABC program, *Numbers Adventure* starts out with an intro map screen showing the numbers 0 to 9. Clicking on a number takes you to an adventure island in the shape of that number. Once there, clicking on different parts of the picture starts various animations. Although programmed by the same team that created the *Alphabet Adventure*, the animations tend to be shorter, less interesting, and nowhere near as wacky. Which is a shame, because this weirdness was the one redeeming feature of this series.

Hidden in each scene is a game or activity. This is sometimes linked to the number in question, and occasionally numbers in general, but not always – sometimes the games are just for fun.

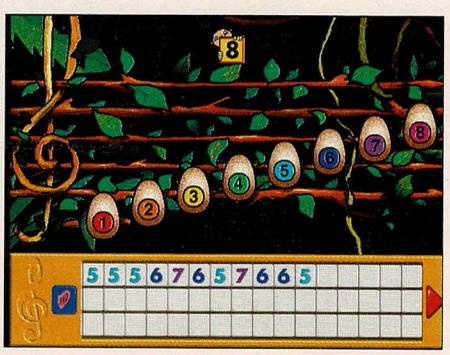
The painting game is enjoyable, but unfortunately it has nothing to do with numbers. It could at least have been made a paint-by-numbers exercise, especially as another activity is playing music by numbers. Here you follow a musical notation of numbers by clicking on an instrument. It's enjoyable, but tragically there are very few tunes to play and admittedly it's not mentioned in the National Curric-



Clicking the teddy bear who is tied up takes you to the number 0 screen. It's obvious when you think about it.



The painting game makes no pretence of having anything to do with either numbers or maths.



You can play a tune by clicking on the numbered eggs. Alas, there are very few tunes to play.

Choose your numerical island destination from this main menu map.

ulum. Some of the other activities show a little more promise, including the weights game. Here you have a set of scales, and it's your job to balance them by using spare weights. But what could have been a great maths game is wasted because of poor execution and lack of thought, ending up as a series of mindless clicks.

Disappointment sums up the program as a whole. There seems to be a pervading attitude that simply by showing your children some numbers, they'll learn by a process of osmosis. Even though *Peter's Numbers Adventure* is cheap, ten short games of this quality is still poor value.

NUMBERS ADVENTURE

Price: £19.99. **Out:** now. **Ages:** 4–8.
Requires: LC or better, 2.6Mb of free RAM, System 6.0.7 or later, 13-inch colour monitor, CD-ROM drive.
Contact: Ocean on 0161 832 6633.

CURRICULUM RATING 20%

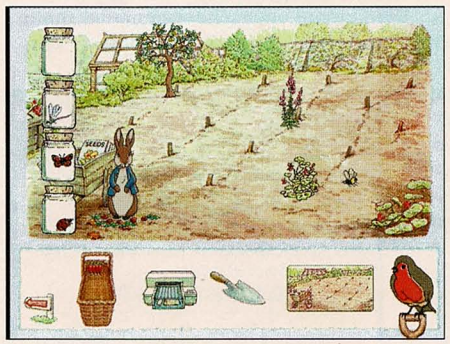
MACFORMAT RATING 68%

BIGGER THAN YOURS

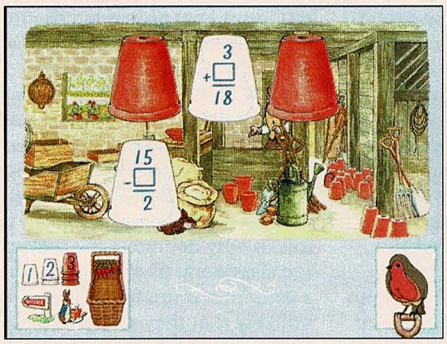
Pupils should be taught to understand the language of numbers, properties of shapes and comparatives, such as bigger than, next to, before.

Peter Rabbit's Number Garden

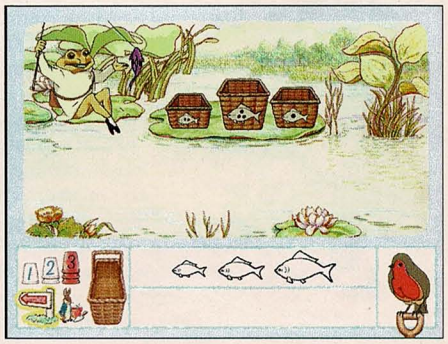
Enter the world of Beatrix Potter to discover artistic maths.



Success with the various activities enables you to plant and cultivate your own garden.



Turn over the pots to find the sum and its answer. Perhaps this is rather more of a memory test than a maths test.



Jeremy Fisher needs some help when he goes fishing. Perhaps he should use dynamite then.

Peter Rabbit may not leap to the mind as an ideal candidate to teach maths, but he makes a pleasant change from Power Rangers and their ilk.

On opening the program you are presented with four learning options: counting and ordering, addition and subtraction, sorting, and matching.

Mrs Tiggiwinkle is your guide to counting and sorting. She gets her dirty washing out in public, and pins it on a line. Each piece of washing has a number on it, but there are some gaps. Your child's job is to spot the numeric pattern and fill in the gaps. As with each activity, you choose from three difficulty levels, spanning the intended age range of four to eight years.

Mrs. Tittlemouse helps you with addition and subtraction, where you will experience numbers up to 99. As with some of the other activities, the action can be frustratingly slow. You have to wait for the characters to do their little animation that you've already seen at least... well, 99 times.

Jeremy Fisher takes you fishing to help your sorting skills. You have to catch fish based on their colour, size, and markings. A good aspect is that some fish don't fit into the pattern at all, so you must avoid catching them in the first place.

Finally, we meet Peter himself, hiding from the myopic Mr McGregor. This game involves turning over two flower pots at a time, uncovering various sums and numbers. The idea is to turn over the matching pair. In line with the original story, success means Peter can hide in the watering can.

The activities are well constructed and adhere closely to a band of the National Curriculum, but they are a touch dry. Why should your child spend good TV-watching time learning maths? The answer comes in the unlikely form of a garden.

At the end of each activity there's a chance to win radishes. Once you have enough, you can visit the garden and trade your winnings for seeds to plant in your garden. These instantly grow into flowers and trees. Your child can then play more maths games to win more radishes or insects to crawl or fly around. It's surprisingly rewarding, and many children would be keen to keep playing so that they can fill their garden.

Peter Rabbit's Number Garden isn't perfect – there isn't quite enough to do, and the animation's repetitive – but it's a good learning tool, and has a happier ending than the original story.

PETER RABBIT'S GARDEN

Price: £29.99. **Out:** now. **Age** 4–8.
Requires: Quadra or better, 2.6Mb of free RAM, System 7.1 or later, 13-inch colour monitor, double-speed CD-ROM drive.
Contact: Mindscape on 01444 246333.

CURRICULUM RATING 80%

MACFORMAT RATING 82%

PREDICTIONS

Pupils should be taught to recognise simple patterns and relationships and make related predictions about them.

Math Blaster 1: In Search of Spot

Among the countless stars, practise your addition.

Maths Blaster 1 proudly boasts of being the world's best selling maths program with two million copies sold. However, like *Bat Out of Hell*, this is not an indication of quality, and this game hasn't worn as well as Meat Loaf.

Your robot companion, Spot, is kidnapped by the arch villain Trash Alien. The first of your four tasks is to collect his litter by answering various mathematical questions. You can select from simple additions and subtractions, moving on to more complex tasks

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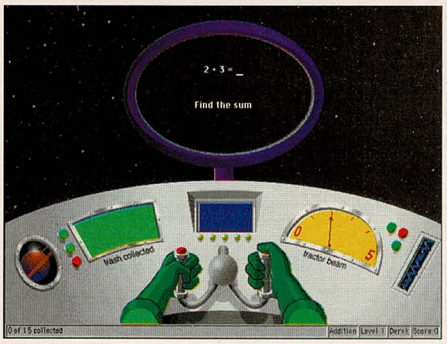
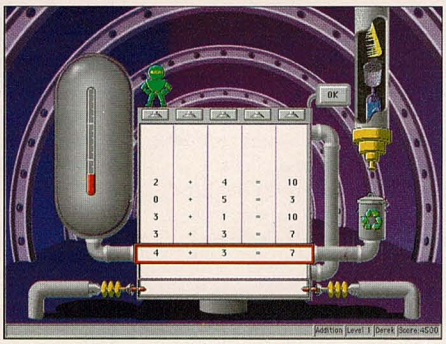
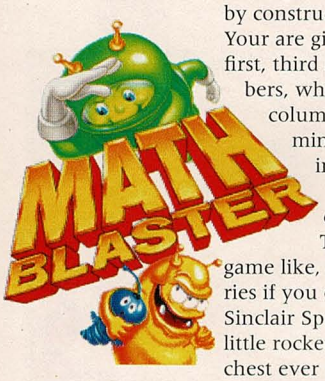


Flying through space you'll meet terrifying hazards such as meteor storm and mathematical sum. Yeuch!



Move any of the five columns down so that the bottom line makes a mathematically correct sum.

In order to rescue Spot, the robot, you have to fly up the Trash Alien's exhaust pipe. Whatever turns you on.



such as rounding up large numbers to the nearest thousand.

Once you have collected enough trash, you have to convert it into fuel by constructing correct equations. Your are given five columns. In the first, third and fifth columns are numbers, while in the second and forth columns are operations, like plus, minus, equals. By moving the individual columns down, you can create correct equations and earn fuel.

The third activity is the most game like, and will bring back memories if you ever played *JetPac* on the Sinclair Spectrum. You must guide a little rocket man with a number on his chest ever upwards in a cave between gaps in the ledges. On either side of the gaps are numbers, and your man's number must be between the numbers on the ledges to be allowed through. It's a test of fast thinking maths, but a good dollop of dexterity and game playing experience is also handy, making it a bit more suitable for slightly older children.

Finally you catch up with the Trash Alien and, in a game similar to the last, must beat him at maths. Success means the rescue of the robot, and the end of the maths torture.

Math Blaster covers a very small part of the National Curriculum, dealing mainly with simple maths sums. The graphics and sound are very poor compared to CD-ROM titles, and it's not a huge amount of fun. But despite this, it very definitely has a place... in the classroom. If your kid's school has a computer room full of Macs, it's unlikely that they will be top of the range multimedia machines. This game will run quite happily on any colour Mac with 4Mb of RAM.

Also of importance: because it's relatively very simple, it doesn't require too much help from the teacher. *Zoombinis* (page 109) may be the better program, but it really requires one adult to every two or three children. If you're looking to buy one program for home, forget *Math Blaster*. It you want to kit out your school computer room, then this is a good choice. No wonder it sells so well.

MATH BLASTER 1

Price: £34.99. **Out:** now. **Age** 6–12.
Requires: LC or better, 2.5Mb of free RAM, System 7.0 or later, 13-inch colour monitor, CD-ROM drive optional.
Contact: ABLAC on 01626 332233.

CURRICULUM RATING 50%

MACFORMAT RATING 69%

Alge Blaster 3

The only cure for an attack of the Red Nasties is maths!

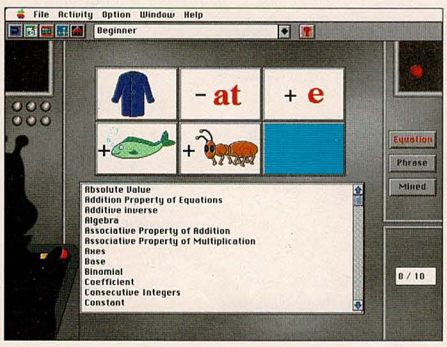
FRACTIONAL
Pupils should be given opportunities to recognise and use in context simple fractions, including halves and quarters.

Nothing to do with cleaning your fish tank, *Alge Blaster* is here to teach you algebra, scourge of every school kid's life. Brought to you by the same people that gave you *Math Blaster*, *Alge Blaster* looks very similar. Indeed, it also has four sections.

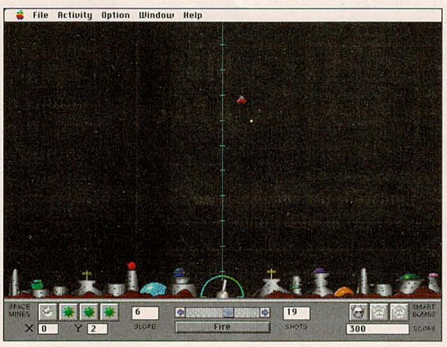
In **Challenger** you can select from 27 different types of algebraic areas, including such delights as solving by elimination, factoring trinomials and quadratic equations. For each area there are around 20 problems which you can solve step by step on screen, or use a piece of paper and just write the answers in. It's pretty heady stuff, but is probably explained just as well as it would be by a jaded maths teacher suffering from staff shortages, budget cuts and a migraine.

In the second activity you have to prove you understand equations by selecting their text explanations from a multiple choice list. Once you've cracked that, the third activity is a *Battleships*-type game where you have to locate aliens on a graph by plotting their coordinates. Although difficult, these two activities are much easier than the mind-bogglingly dull **Challenger** section.

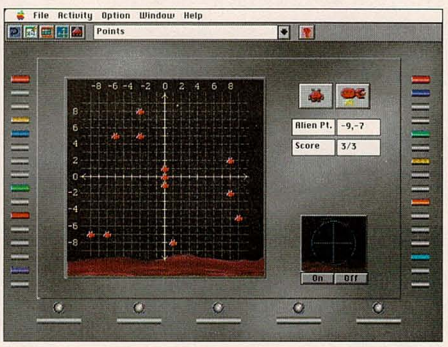
But that's nothing; the last game sees you plotting trajectories in a real time environment. Okay, so it's a weak version of *Missile Command*. You aim your little gun and fire a bullet at an alien descending towards your cities. This is in total contrast to the complex algebra that went before, and while it comes as a blessed relief for your struggling brain, it seems ridiculously



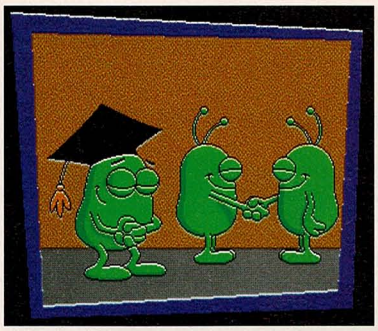
Work out the mathematical expression from the visual puzzle. What has this got to do with maths?



Shoot the little alien with your cannon before it destroys your cities. I'm learning maths, Mum, honestly.



This is one of those games that take two minutes to learn, and three minutes to master.



Smart alec aliens. Well, it's good to see that someone's enjoying *Alge Blaster.*

out of place in this package.

Algebra only crops up in Key Stages 3 and 4 of the National Curriculum, so this package is aimed at over 12s. But considering the presentation, with its silly story lines and cute animated characters, *Alge Blaster* is better suited for distinctly younger children.

Overall, it's a hotch potch of activities centred on a boring subject and only serves to confirm that making algebra fun is as difficult as solving quadratic equations. After having played this, I would much prefer to have cleaned out my fish tank.

ALGE BLASTER 3

Price: £34.99 **Out:** Now **Age** 12–adult
Requires: LC or better, 1.7Mb of free RAM, System 7.0 or later, 13-inch colour monitor, CD-ROM drive optional.
Contact: ABLAC on 01626 332233.

CURRICULUM RATING 85%

MACFORMAT RATING 54%

CONKERS

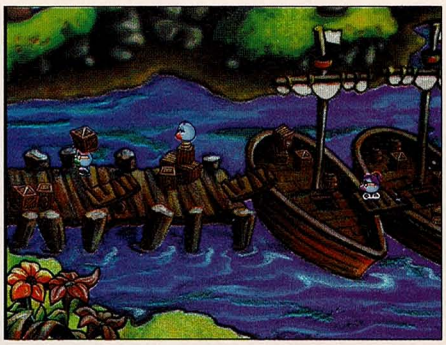
Pupils should be given opportunities to compare objects using common non-standard units – for example, as heavy as ten conkers.

The Logical Journey of the Zoombinis

Are teachers in danger of being replaced by small blue creatures?

Only certain Zoombinis can enter the caves through each entrance. It's your job to work out the solution.

The raft has strange seating arrangements: each Zoombini must have something in common with its neighbour.



Excellent animation and superb graphics increase your pleasure and produce a wonderful atmosphere.

From Brøderbund, creators of the *Carmen Sandiego* series, comes a completely different approach to teaching maths – or more particularly logic, an essential part of mathematics.

The story goes that the peace loving Zoombinis are forced to leave their island by commercial pressures, and set off in search of new lands and new career opportunities. You must guide them through a series of activities to discover the promised land.

You start by selecting 16 Zoombinis. Rather like small blue Mr Potato Heads, each Zoombini can have one of five different hair styles, eyes, noses, and feet. Off you go to your first challenge, where the importance of the Zoombinis' appearance becomes clear. There are two bridges across a chasm. Each bridge is 'allergic' to certain Zoombini features. Send a Zoombini across a bridge which is allergic to it, and they're sent back. You may only make six mistakes, so you'll quickly have to work out what it is that the bridges are allergic to. Thus you practise both problem solving and logical thinking.

There are a total of 12 activities, all with a similar theme of trying solutions and working out the hidden patterns. It's somewhat similar to the classic *Mastermind* puzzle where you have to work out the order of four hidden pegs. But while that particular game is too hard for most children, the games in *Zoombinis* are ideal. At first, some appear tricky, even for an adult, but the logic behind them quickly becomes clear. The difficulty level is perfect – it will stretch your child and make the game last longer, but not to the point of frustration.

The whole quality of the program is impressive. The graphics are gorgeous, with expertly drawn backgrounds and delightfully drawn characters. The narration is clear and the manual very detailed, being aimed at the helper rather than the child.

The first half of the manual contains instructions for the activities, while the second half goes to a lot of trouble to explain the educational principles behind it. It has been localised for the UK, and particularly noticeable is the section that details the areas of the National Curriculum the game covers, noting them by paragraph references. This is of particular use to teachers planning lessons.

However, despite all of this praise, I haven't mentioned what is perhaps the most impressive feature of the game: the perfectly designed gameplay. For instance, you'll lose some of your 16 Zoombinis in the hazardous activities on your journey. At one third and two third points, you must have 16 Zoombinis to progress. This means leaving your depleted band while you go back to the beginning to bring some more through. Each time you play an activity, it gets a little harder. Thus you work your way across the map until you get the requisite 16 Zoombinis to their new town, Zoombination.

What then? Well, Zoombination is a large town, so you'll need to go back and rescue many more of the little guys to fill the place, which steadily grows in *Sim City* fashion. If you manage to get a whole band of 16 Zoombinis through in one go, a special building is erected in your honour.

The game can be saved at any point, so your children will play for hours to build up their town with hundreds of Zoombinis. A brilliant method of maintaining interest. If you buy one maths product this year, make it this one.

MACFORMAT Classic

LOGICAL ZOOMBINIS

Price: £30. **Out:** now. **Age** 8–adult.
Requires: LCIII or better, 5Mb of free RAM, System 7.0.1 or later, 13-inch colour monitor, double-speed CD-ROM drive.
Contact: Brøderbund 0181 563 2222.

CURRICULUM RATING 91%

MACFORMAT RATING 96%

ADDING IT UP

Pupils should be given opportunities to develop a variety of methods for adding and subtracting, including using the fact that subtraction is the inverse of addition.

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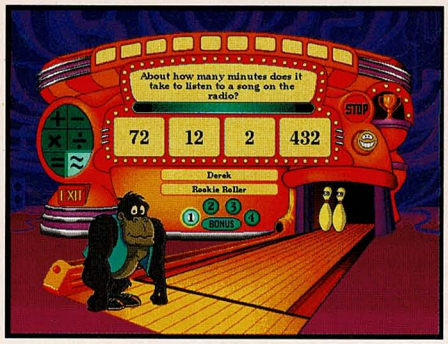
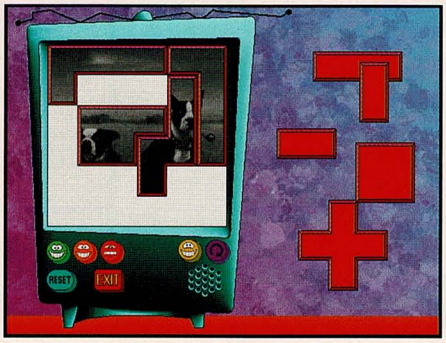
Maths Workshop

A different approach to maths, but can it really make it fun?



Estimation is an essential part of the National Curriculum. Unfortunately gorillas feature less heavily.

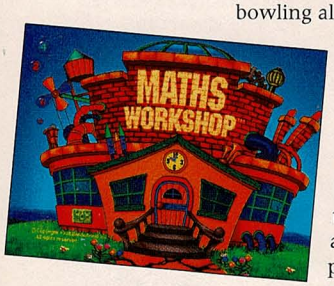


Gain an understanding of shapes by arranging and rotating the pieces to complete a picture.

Chop, splice and glue together a musical beat. There's plenty of good maths theory behind it all.

If I were to tell you that this package gives you seven activities to teach your child maths, what do you think those activities might be? You might think of addition, subtraction, long division, and all those other dull things you had to learn at school. But maths is not just about numbers, and this program sets out to prove it.

The first activity is the kind of thing you would expect from a maths program. You must answer ten maths sums correctly to bowl a strike in a bowling alley. However, as well as the usual choices of addition, subtraction, division and multiplication, you have estimation. This poses questions such as, how many apples high is football? Or how many inches tall is a typical door? You are given a choice of four possible answers, which vary a lot, meaning that only one of them should be reasonable.



SORT IT OUT

Pupils should be taught to sort and classify a set of objects using criteria related to their properties, like size, shape, mass.

This type of 'guessing' may not seem very mathematical to you, but the National Curriculum firmly lays it down as a skill to be taught. It's so that children get a feel for numbers. When they arrive at a result for a calculation, it's good if they have a rough idea whether it's reasonable or not.

Since all the activities take place in a rocket scientist's house, it seems quite normal to go to his attic and play with some toy rockets. A certain number are placed on a table and you take it in turn to launch between one and four of them. The person who launches the last rocket wins.

The point of this game is to realise that if you can organise it so that on one of your opponent's turns they have just five rockets left, you'll win. They can't launch them all at once because there are too many, but because they have to launch at least one, when it's your turn you'll be able to launch all the remaining rockets, and thus win. This is excellent for predicting patterns, and again, is just what the NC ordered.

You can also visit the Rhythm Shop where your job is to create a particular beat – say one half bar, one eighth bar, one quarter bar, one eighth bar. You start with a whole bar of music which you can chop into equal lengths – maybe quarters. You can then splice bits back together, so that if you wanted a half, you might have to chop the bar into quarters then splice two together.

Once you have all the bits you need, you construct the beat, which is then played to you. On the more complex levels, this is a real challenge and will certainly teach even the most confused child fractions.

The roof of the house is actually a stained glass window, and you get the opportunity to stain it. You are presented with a blank geometric pattern, and must colour in the individual panes by choosing a colour then clicking on them. The point of this exercise is that your child experiences tessellating patterns, geometric patterns that fit together and stretch to infinity – or at least to the edge of your monitor.

The final three activities resemble each other, in that they involve a picture which is then broken up for you to reassemble. Sometimes the pieces are different shapes, so you must work out how to fit them together to make a square. The success of this game is that it's not a puzzle with a single answer, but a problem with a variety of solutions for your child to discover.

Backing all of this up is an excellent manual, which is localised for the UK. It's packed full of information about the activities, and how to get the most out of them. Unfortunately *Maths Workshop* probably requires too much adult input for classroom use, but it's a product that you'll enjoy showing to your offspring just as much as they'll enjoy playing with it. **MF**

GET IN SHAPE

Pupils should be given opportunities to describe and discuss shapes and patterns that can be seen or visualised.

MACFORMAT Classic

MATHS WORKSHOP

Price: £30. **Out:** now. **Age** 6–10.
Requires: LCII or better, 2.5Mb of free RAM, System 7.0.1 or later, 12-inch colour or grey scale monitor, CD-ROM drive,
Contact: Brøderbund 0181 563 2222.

CURRICULUM RATING 96%

MACFORMAT RATING 90%

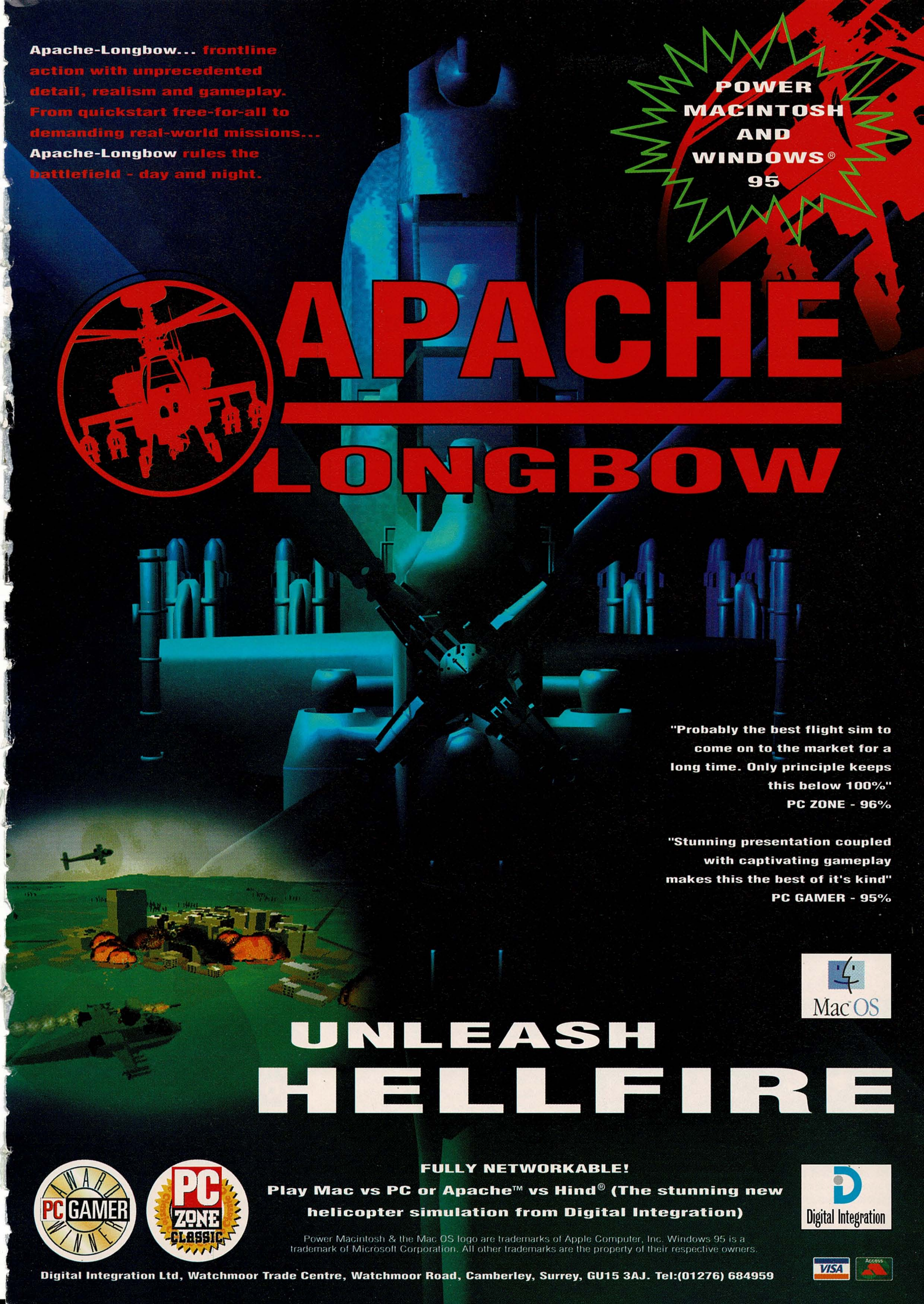
NOT ONLY BUT ALSO

The maths programs that we've looked at here cover most aspects of the National Curriculum. However, there are a couple of things not covered. The NC states that even in Key Stage 1, children should be able to use IT devices, including turtle graphics packages.

Back in MACFORMAT 21 we reviewed *The Crystal Rainforest* from Sherston Software (01666 840433) and awarded it an overall rating of 89%. It will run on any colour Mac and gives kids many scenarios in which to learn Logo and simple programming. The package comes with several large maps and is a complete introduction to software control.

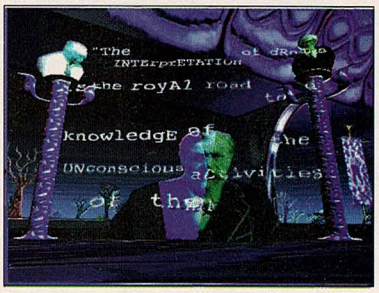
The NC also states that pupils should be taught to collect, record and interpret data, and produce charts, tables and graphs. The obvious application for this is a spreadsheet, and children should be introduced to them as a problem solving tool as early as possible.

Obviously *Microsoft Excel* would be overkill for this task, so your best bet is probably *The Cruncher* from ABLAC. This spreadsheet will run on any Mac and has been specially tailored for children. It comes with plenty of colourful examples and tutorials and it's easy to use. At the same time, it has all the regular features of a full blown spreadsheet package, so is a perfect introduction. Reviewed in MACFORMAT 14, it also received a well deserved 89%. You can contact ABLAC Learning Works on 01626 332233.


Apache-Longbow... frontline action with unprecedented detail, realism and gameplay. From quickstart free-for-all to demanding real-world missions... Apache-Longbow rules the battlefield - day and night.
POWER MACINTOSH AND WINDOWS® 95
APACHE
LONGBOW
"Probably the best flight sim to come on to the market for a long time. Only principle keeps this below 100%"
PC ZONE - 96%
"Stunning presentation coupled with captivating gameplay makes this the best of it's kind"
PC GAMER - 95%
Mac OS
UNLEASH
HELLFIRE
FULLY NETWORKABLE!
Play Mac vs PC or Apache™ vs Hind® (The stunning new helicopter simulation from Digital Integration)
PC GAMER AWARD WINNER
PC ZONE CLASSIC
Digital Integration
Power Macintosh & the Mac OS logo are trademarks of Apple Computer, Inc. Windows 95 is a trademark of Microsoft Corporation. All other trademarks are the property of their respective owners.
Digital Integration Ltd, Watchmoor Trade Centre, Watchmoor Road, Camberley, Surrey, GU15 3AJ. Tel:(01276) 684959
VISA
Access

Makers of the 20th Century

World wars, women's emancipation, the discovery of radium, psychoanalysis... Check out this CD-ROM and see just how productive the last 96 years have been.



Move forwards, backwards, left or right through the eerie blue 3D scene of Mind. To select a person, click on the Pythonesque cut-out figures.

Kafka undeniably conforms to the 'mind of a genius equals tortured soul' theory. Read excerpts from his novels here and you'll readily concur.

Everyone absorbs a certain amount of information from the media – the news events of every day, the fads of the moment. Maybe you're a bookworm, a music fiend, a film buff – or perhaps you studied modern history and politics. But how much do you *really* know about the century in which you're living? *Makers of the 20th Century* is a selective look at the past 95-and-a-half years: 200 people have been focused on – 200 people of all nationalities and from diverse walks of life, who have in some way affected the world we now live in.

Madonna is introduced with the catchy heading 'Pop Dominatrix' – and with this vision of (probably) steel-capped assets, who's going to argue?

Within sections of the CD-ROM headed Mind, Power, Body, Senses, Discovery and Design, you'll find actors, singers, dancers, designers, inventors, scientists, leaders, politicians, writers, philosophers, psychiatrists, doctors... The selection encompasses personalities as diverse as Marie Curie, Virginia Woolf, Freud, Fred Astaire, Kafka, Chanel, the Ayatollah Khomeini and even Clarence Birdseye. Perhaps you won't agree with all the choices, feeling that individuals more important have been left out for the tabloids' favourite oxygen-hogging, kiddy-loving zookeeper Michael Jackson. But however wide your knowledge is, this CD-ROM should fill in more than a few gaps.

The most impressive aspect of *Makers of the 20th Century* is its presentation. Every section has an individual style of intro screen designed to suit its title, whether it's a QuickTime movie of a woman dancing in Body, or the blackened square of Discovery, lit up by the torch of your mouse as you guide it across the screen. The Mind section is a kind of 3D scene – as you move through it, you pass cut-out figures in various poses, their names appearing alongside the window as you pass the pointer over them. The feeling is most surreal, heightened by the eerie music accompanying the scene. Every effect seems carefully calculated to inspire and excite; you feel as if you're discovering the 20th century anew.

It's somewhat disconcerting that a man whose theories of psychology turned the world upside down actually admitted to not knowing what women really want.

If you want to find some information on a specific person, just go to **Search,** where you can find out who's available – in alphabetical order, by nationality, by profession and so on. Once you reach the actual information, the set-up is fairly uniform. A few pictures, some pages of text on attractive mottled backgrounds, highlighted boxes to divert your attention from the main body of the text, and coloured stars spinning across the screen that you can click on for a 'flying fact' (there's an example of these random snippets in our margin note, left). The overall effect is clean, enabling you to concentrate on the words without getting bored.

The information comes from a mixture of sources. An overview of each person is given from our 1996 perspective, and then there are contemporary articles about the individual – reviews of an author's works at the time of publication and excerpts from the actual text, media items on a pop star's arrival in the country, correspondence between great thinkers of the time... The disc's origins, however, are somewhat betrayed by the sourcing of most of the newspaper articles – *Makers of the 20th Century* began as a series in *The Sunday Times Magazine* and most of the articles are taken from either *The Times* or *The Sun*. This comprehensive but subjective sourcing provides you with a truly Westernised view of this century, courtesy of Mr Murdoch.

Nevertheless, *Makers of the 20th Century* is a quality piece of multimedia. It's stylishly presented with enough variation to keep you hooked, an air of mystery to keep you investigating and an ease-of-use that causes not a breath of frustration. Despite the limitations of its source material, the coverage of each personality leaves you loaded with facts and smug at your new-found knowledge. **Eva Lauer**

Frank Lloyd Wright

The greatest American architect of this century and creator of New York's Guggenheim Museum, a prime example of organic art. Lloyd Wright was in debt for most of his life. Rumoured to have said, 'Give me the luxuries of life and I will willingly do without the necessities.' A creditor once broke his nose in an argument over a $380 debt.

Flying Fact

In 1926 Benito Mussolini survived an assassination attempt by the Honourable Violet Gibson, daughter of an Irish lord. Despite her shooting him at close range, the bullet only grazed his nose. His bemused response was: 'Fancy, a woman!'

The 'gangster poet' and Marxist playwright Brecht was quite hot on the leather jacket and charismatic pose front too. Eat your heart out, James Dean.

Chanel, the woman who made female clothes comfortable and secured immortality for the ubiquitous little black dress. Bless her cotton socks.

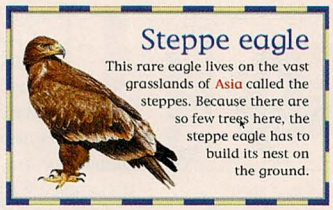
MAKERS OF THE 20TH CENTURY

Price: £44.99. **Out:** now.
Requires: LCII or better, 8Mb of RAM, System 7.1 or later, 256-colour monitor, double-speed CD-ROM drive.
Contact: News Multimedia on 0345 573132.

MACFORMAT RATING 89%

My First Amazing World Explorer

Wondering how to keep your child's wandering feet in control? Simple – let their eyes do the travelling. Avoid sunburn and jetlag with the calmer confines of a CD-ROM.

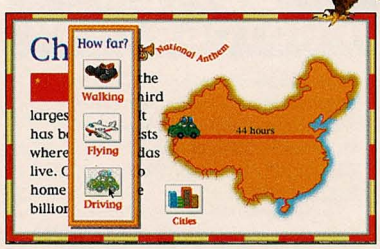

Steppe eagle
This rare eagle lives on the vast grasslands of Asia called the steppes. Because there are so few trees here, the steppe eagle has to build its nest on the ground.

Your child's life revolves around home and school, family and friends. What little they see of the world is most likely through the television screen or a summer holiday to some sunny resort. But it's a big wide world out there and waving a plastic globe at them isn't likely to captivate. In steps Dorling Kindersley, reliable as ever, with the cuddly *World Explorer*, an animated cartoon introduction to planet Earth, viewed from the safety of your child's bedroom.

My First Amazing World Explorer isn't just a CD-ROM, however; it's a 'CD-ROM Activity Pack'. That means you get a jigsaw, stickers, treasure map, map book and activity book. All are aimed at making children think about not just the world, but the different things maps are used for and how they can use them. Everything is covered, from making a plan of your own bedroom to using co-ordinates and looking at the different types of climates and animals you find in different parts of the world. And the whole thing, from packaging to books to the CD, is beautifully presented.

The main screen of the CD is a child's bedroom, but the main section is the map of the world that hangs on the bedroom wall. Click on the map to zoom in and you're presented with the world covered in cartoon illustrations of landmarks, people, animals, machinery... Click all over the map and you're regaled with humorous short animations. Every country is characterised by its animals, buildings and crops. Penguins in Antarctica, paddy fields in China, pyramids in Egypt, surfers in Australia and so on.

Your child is encouraged to click everywhere to see what happens, and you're then treated to a smaller screen with facts about the country or item you've just selected. These are presented as text, but there's also a voice-over, so it doesn't matter what stage your child's reading skills are at. Find out that the cougar lives in mountains in the USA, that Asia is the largest continent in the world, that Saudi Arabia produces more oil than any other country in the world... You can even listen to various national anthems and traditional instruments. And to give a sense of perspective on this planet business, you can find out how long it would take to travel across each country from east to west. Apparently it would take five months to walk, 44 hours to drive or five hours to fly across China.



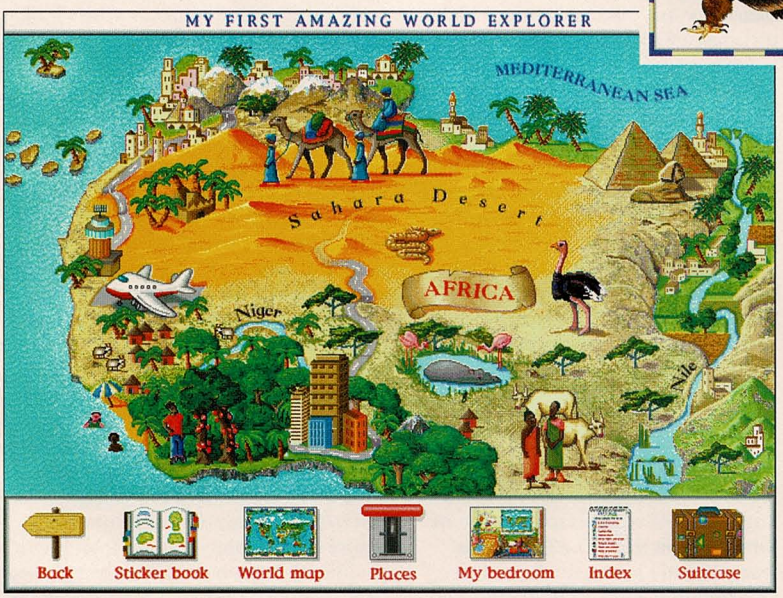
Find out how long it takes to travel across China with this quirky little cartoon.

If you spot a space shuttle or submarine, click on them for a brief discourse on space and the underwater world. You can also send postcards back to your noticeboard in the bedroom and collect 'stickers' for your sticker book – incentives to keep exploring the map to find all the goodies.

Meanwhile, back in the bedroom there are three map-oriented games to play. They're all very simplistic and perhaps not the most entertaining games you'll find on a CD, but they are reasonably educational.

Whatever the extra trappings of games and books, the main attraction is still the interactive map. What makes *World Explorer* so good is that it's pitched at just the right level for younger children – four to six year olds. Rather than drumming every capital and continent into your child's brain, with dull blocks of colour and endless labels, it shows you the world as a living thing, diverse and interesting. What better introduction could you want than that?

EVA LAUER



Okay, so it looks like that ostrich could leap over the pyramids with very little effort, but they're big birds, y'know. And as for the camels, apparently they regularly crush high-rises underfoot.

The information screens that appear when you click on the world map are in clear and simple language. If you click on 'Asia' you get an explanation of that too, courtesy of the extensive glossary.

ELEMENTARY, DEAR WATSON

Eva's four-year-old nephew, Tom, thoroughly enjoyed *World Explorer*, enthusiastically clicking on everything to see what happened. The language was easy for him to understand, while the map was a doddle to use.

Choose the face that you feel is most appropriate for you and enter your name and age before proceeding on your travels. Red hair and freckles... Oh, what the hell.

SERIOUSLY, THOUGH...

If you do want to introduce your kids to the more sober, traditional map, there's an option to view the world in a more detailed form without the animation. There's also a very clear glossary of words like 'desert' and 'tundra'.

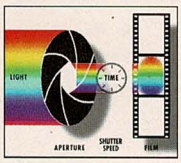
WORLD EXPLORER

Price: £29.99. **Out:** now. **Age:** 4-9.
Requires: LCII or better, 6Mb of RAM (8Mb recommended), System 7 or later, 256-colour, 13-inch monitor, double-speed CD-ROM drive.
Contact: Dorling Kindersley on 0171 753 3488.

MACFORMAT RATING **89%**

Better Photography

Fed up with bringing home holiday snaps that send the relatives to sleep? Then maybe before you next pick up your camera you should learn to see creatively.



Confused about exposure? These diagrams and their accompanying explanations should make the whole thing as clear as day.

Using the modern generation of point-and-shoot automatic cameras, taking photographs has never been easier. However, traditionalists would argue that the point-and-shoot mentality has made it harder to take pictures which are actually any good.

Such people have a case. In the days when a camera had a single, fixed focal-length lens and had to be mounted on a tripod, photographers took a lot more trouble over their composition, exposure and timing. These days, few people bother to walk five paces, kneel down or even look around before pressing the shutter button. So it's good to see CD-ROMs like Diamar's *Better Photography: Learning To See Creatively* encourage budding photographers to stop, step back, think – and above all, take time to experiment.

Ways of seeing

There are lots of ways to view the information on this CD-ROM. If you want a gentle lecture on how to see and compose good photographs, you should choose the **Interactive Theatre**. If you want to get your hands dirty with some photographic technicalities, the **Workshops** are the place to go. Not sure that these techniques really can make a difference? Check out the **Before and After** section for proof that they can. And if you want to experiment with different film speeds, apertures and shutter settings, seeing the results on-screen, head for the **Photolab**. Finally, you can simply browse the **Gallery** if you just want to soak up some spectacular, inspiring photography.

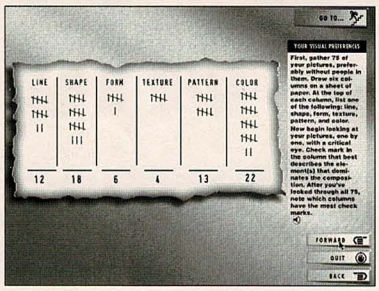
There's no doubt the photography is good. The author Bryan Peterson is a professional photographer who's built up an impressive portfolio.

Except that after a while, you start feeling you've seen the photographs before... and that's because all the main menu options actually use the same photographic material, repackaging it with a different angle, according to what you want to know about. This sounds reasonable enough, but you will soon start to get a little bored with some of the images.

And you can get bored with the text descriptions, too. The ideas and techniques described are perfectly correct, but the language is sometimes ambiguous, and so many variables are introduced, including pattern, texture, tension, shape, form – and so on – that instead of simplifying photography the author threatens to turn it into even more of an arcane practice than it was before. Is tension more important than depth of field? When you're photographing a tree, should you be trying to capture line, texture or pattern? Too many concepts and not enough priorities seems to be the problem. Peterson's periodic audio commentaries add incidental detail or some personal experience rather than shedding light on a subject that's proving a little more complicated than you thought.

And if time is a priority, you may soon get irritated with your Mac's watch cursor. This is no roller coaster trip through a visual wonderland, it's more of an arthritic plod through a picture gallery. Lots of memory, as ever, will help, but if you own an 8Mb Mac, take some patience pills.

Learning To See Creatively is like a million and one other books on photography. It's full of glossy, striking photos and offers useful advice to help you understand many of the technicalities. But there's no real order of priority to the techniques you're being taught and the boundaries between the many different concepts are too blurred. A little less of the imprecise, 'arty' language and a little more simple explanation would have made a big difference. **Rod Lawton**



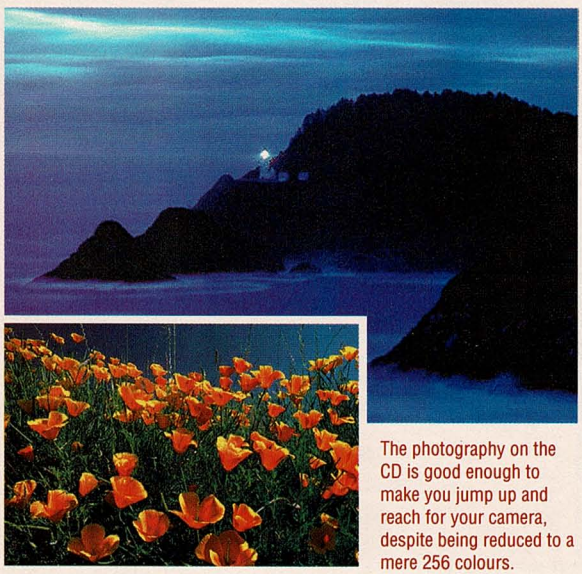
What appeals to you in a photograph? This exercise will help you analyse your own pictures as you work it out.

The main menu of *Learning to See Creatively* is where you choose your learning approach – do you want a lecture or a hands-on demonstration?

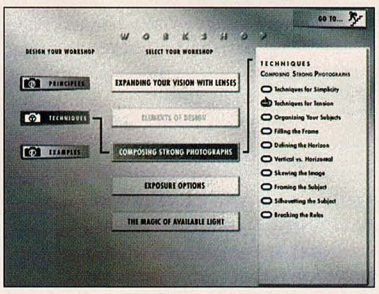
The **Photolab** section enables you to experiment with film speed, aperture or shutter speed to see the effect on your pictures.

BUY THE BOOK

This CD-ROM is based on Bryan Peterson's book *Learning To See Creatively: How To Compose Great Photographs*. The CD-ROM is obviously more interactive, but not enough to make a difference. Of course we're assuming the book won't cost £40...



The photography on the CD is good enough to make you jump up and reach for your camera, despite being reduced to a mere 256 colours.



The **Workshop** view is as close as this CD-ROM gets to a structured navigation system. From here you can quickly target the specific technique you want to get more information about.

BETTER PHOTOGRAPHY

Price: £39.99. **Out:** now.
Requires: Mac II or better, 4Mb of free RAM, System 7.0 or later, 256-colour 13-inch monitor, CD-ROM drive.
Contact: ABLAC Learning Works Ltd on 01626 332233.

MACFORMAT RATING 65%

Back Issues Complete the set – only £5 each, including p&p.

ISSUE 29

October 1995

■ **On the disk:** Clip art, games and utilities; fonts.
■ **On the CD-ROM:** Sorry, the CD-ROM edition is no longer available.
■ **Inside:** Eye-catching black-and-white DTP; clip art collections; *KPT Vector Effects*, language learning software and multimedia encyclopaedias reviewed.

Order codes:
HD Disk MFHD29

ISSUE 30

November 1995

■ **On the disk:** *MacPipes; MacQubic; Gossamer; Do It All!* personal organiser.
■ **On the CD-ROM:** Sorry, the CD-ROM edition is no longer available.
■ **Inside:** Publishing on the Net and CD-ROM; QuickTime utilities; *Alone in the Dark; SmartSketch;* input devices – alternatives to the mouse.

Order codes:
HD Disk MFHD30

ISSUE 31

December 1995
Double-disc special!

■ **On two disks:** *Color It! 2.3.5* – full version; *Factory.*
■ **On two CD-ROMs:** Sorry, the CD-ROM edition is no longer available.
■ **Inside:** 50 ways to make your Mac run faster; *ClarisWorks 4; Doom 2; SoftWindows;* personal organisers; programming.

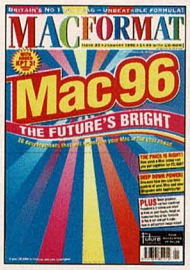
Order codes:
HD Disk MFHD31

ISSUE 32

Christmas 1995
Free MacGamer supplement!

■ **On the disk:** *Pentominoes; Frog Xing; Xmas Lights, FindText 1.3* utilities.
■ **On the CD-ROM:** Sorry, the CD-ROM edition is no longer available.
■ **Inside:** Create great art on your Mac; the new range of PowerMacs; *PageMaker 6;* kids' multimedia.

Order codes:
HD Disk MFHD32



ISSUE 33

January 1996
Free alternative manual!

■ **On the disk:** *Eclipse 3; Altair 2; Gravity Balls 1; TextBrowser 1.1; Aaron.*
■ **On the CD-ROM:** *Doom; Descent; Voodoo Lounge;* education demos and more.
■ **Inside:** What's happening on the Mac in 1996; *KPT 3; Day of the Tentacle; Aladdin;* guide to buying a Mac setup.

Order codes:
CD-ROM MFCD33
HD Disk MFHD33

ISSUE 34

February 1996

■ **On the disk:** *Disk Wizard; DOCMaker 4.1; SoundApp; ScreenShot; Symbionts.*
■ **On the CD-ROM:** Sorry, the CD-ROM edition is no longer available.
■ **Inside:** New 3D graphics technology and software; storage systems; kids' multimedia; *ClarisImpact 2; Doom 2* tips; handling text files.

Order codes:
HD Disk MFHD34

ISSUE 35

March 1996
Free DTP tips book!

■ **On the disk:** *Smoothie, Shatterball, NoteBook Maker, Diagonal* and *BeerStack.*
■ **On the CD-ROM:** *Fractal Design Painter 4, Klik & Play, Code Warrior Lite* complete.
■ **Inside:** Mac service & backup assessed; Natural Media; *PageMill;* foreign file formats; *Marathon 2.*

Order codes:
CD-ROM MFCD35
HD Disk MFHD35

ISSUE 36

April 1996
Double-disc special!

■ **On two disks:** Multimedia suite, including *ProView.*
■ **On the CD-ROM:** Sorry, the CD-ROM edition is no longer available.
■ **Inside:** Create your own multimedia; CD writers; *Rebel Assault 2; Lightning-Draw GX;* 3D clip art; *SoundEdit 16.*

Order codes:
HD Disk MFHD36

ISSUE 37

May 1996
Free MacGamer supplement!

■ **On the disk:** Guide to Mac upgrades; *Quark* game; *SimpleBackup; Fly Swatter.*
■ **On the CD-ROM:** Interactive guide to upgrading your Mac; *Full Throttle, InfoGenie* demos.
■ **Inside:** Giant fold-out Mac family tree; Mac upgrades; *FileMaker 3; Illustrator 6.*

Order codes:
CD-ROM MFCD37
HD Disk MFHD37

ISSUE 38

June 1996

■ **On the disk:** Print utilities; freeware fonts; *Flippers; Biorhythms; Munchies.*
■ **On the CD-ROM:** *ClarisWorks 4.0 updater, Live Picture; X-Wing; Ice & Fire; World History* demos.
■ **Inside:** Perfect printing made easy; colour printers reviewed; *Live Picture 2.5; xRes 2.0, Bryce 2.*

Order codes:
CD-ROM MFCD38
HD Disk MFHD38

ISSUE 39

July 1996
Double-CD special!

■ **On the disk:** *Skittles* game; *Digital Address Book*
■ **On two CD-ROMs:** Internet essentials; official System 7.5.3 update; graphics spectacular; Claris suite; *Afterlife*
■ **Inside:** Discover the Internet; *Extreme 3D, Ray Dream Studio, PhotoDeluxe* reviewed; literacy multimedia

Order codes:
CD-ROM MFCD39
HD Disk MFHD39

ISSUE 40

August 1996

■ **On the disk:** 16 System enhancers; *FlipSide;* 90 icons
■ **On the CD-ROM:** complete *Myst* screensaver; demos of *UniQorn, Fontographer, BeyondPress 2* and *HexWeb*
■ **Inside:** Text manipulation; huge group tests of 15- and 17-inch monitors, plus speakers; multimedia music titles; handling alien graphics

Order codes:
CD-ROM MFCD40
HD Disk MFHD40

MACFORMAT Binder

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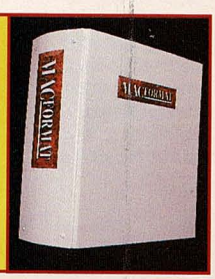

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Peak

As your digital audio options on the Mac continue to develop, Ian Waugh puts in some *Peak* practice to look at a new digital editing and processing program.

If you want to record, edit and process digital audio, the Mac's your machine. But you need some software too – such as *Peak*, a new program from American software developer BIAS (Berkley Integrated Audio Software).

It's more a digital audio editor than a recorder as it only works with single mono or stereo tracks. Its editing facilities tend to be more flexible than those in digital audio multi-track programs (although this is not always the case), and the developer suggests *Peak* as the ideal complement to *Sound Designer, SoundEdit 16* and *Deck II*.

MISSED IT?

SoundEdit 16 version 2 and *Deck II 2.5* scored 80% and 84% when they were reviewed in issues 36 and 38 of MACFORMAT respectively. If you're interested in either of these applications and missed the reviews, turn to the previous page for information on how to get hold of back issues.

Hard install

Installation is easy, but *Peak* uses a hard disk install for copy-protection. These systems are like driving with a custard cream on the dashboard – you're never quite sure if it'll be there after a crash. However, *Peak's* install stood up perfectly during our tests.

The program routes its output through the Sound Manager, and you can output the sound to any audio device, including the Mac's internal speaker, using the **Sound** Control Panel – useful if you fancy a spot of audio editing on the train with your trusty PowerBook.

The program currently supports AIFF, Red Book and *Sound Designer* files. Support for the PC's common WAV format is scheduled for the next version, and if you buy *Peak* in the meantime you can expect to receive it as a free update.

Peak has one edit window, which shows either a single mono file or the two sides of a stereo file. It can handle the dual mono format used by programs such as *Pro Tools*, and you can load two mono files into the two stereo tracks. You can keep several edit windows open at the same time, making it very easy to copy between two files.

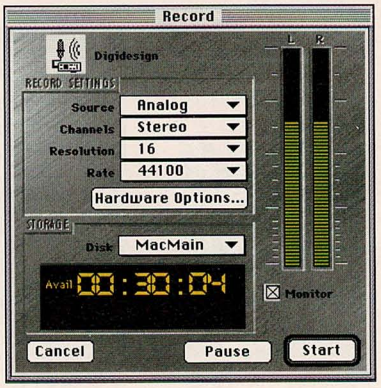
You can import audio tracks directly from an audio CD. The program hooks into Apple's QuickTime video system to do this but it wouldn't read mixed computer and audio CDs, such as those given away on music magazines like *Future Music*.

You can also use *Peak* to record your own material, of course. LED-type displays on the screen monitor the incoming signal, but you can't adjust the recording level within *Peak;* you'll have to do this at the source instead.

Peak is easy to use and, once you've mastered a few key commands, you'll find it a powerful and intuitive editor

I am undone!

Virtually every function and process in *Peak* can be undone if you change your mind, and you can perform most functions on the fly during playback.



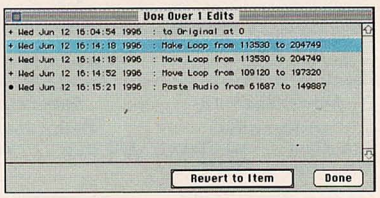
Peak's **Record** window monitors the incoming sound so you can avoid distortion caused by the input signal being too loud.

The edits you've performed appear in an Edit List so you can revert to a previous position very quickly.

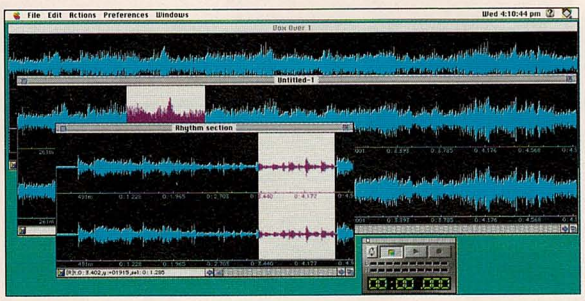
Selecting areas of the sample is simply a matter of clicking and dragging, and shuffling bits of audio about is also dead easy. The **Blend** function creates a little crossfade where you've butted together two pieces of audio, which helps smooth the transition from one to the other – a very thoughtful attribute to include.

The software enables you to create your own crossfade curves, but you can also select one of eight presets. *Peak* also has good support for Markers and useful facilities for creating loops.

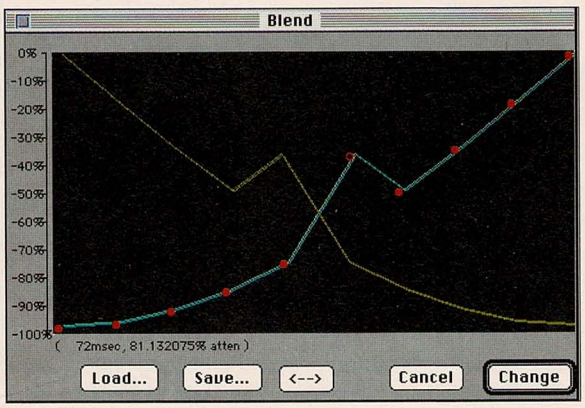
So *Peak* already has one or two nice extras which you don't find in all audio editors. However, you're likely


Box Over 1 Edits
Wed Jun 12 16:04:54 1996 : to Original at 0
Wed Jun 12 16:14:18 1996 : Make Loop from 113530 to 204749
Wed Jun 12 16:14:18 1996 : Move Loop from 113530 to 204749
Wed Jun 12 16:14:52 1996 : Move Loop from 109120 to 197320
Wed Jun 12 16:15:21 1996 : Paste Audio from 61687 to 149887
Revert to Item
Done

The **Edits** window shows all the edits you've performed on a file, enabling you to revert instantly to any previous state.



Peak enables you to have as many edit windows open as you want, making it easy to copy sections between audio files.



You can use one of eight preset crossfade curves or create your own irrational variations such as this.

PART OF THE PROCESS

The four *Peak Accessory Paks* include some functions which are an essential part of any digital editor in today's competitive marketplace. These include **Normalise, Change Gain, Sample Rate Conversion, Reverse** (you never know when this will come in handy) and **Mix.**

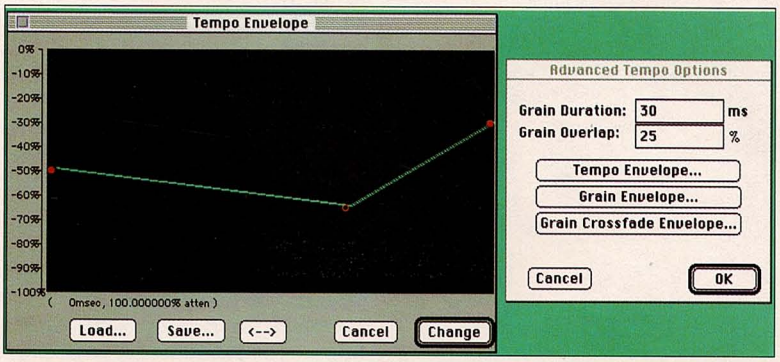
Other useful functions include **Phase Inversion** (if you have to ask, you don't need it!) and **Repair Click. Threshold** splits a region into sections based on amplitude levels, while **Change Duration** is a sort of time stretch function that enables you to gradually speed up or slow down an audio section.

There is support for both *Ensoniq* and generic samplers, which enables you to edit a sample in *Peak* and send it to a sampler. *Peak's* loop markers are recognised as loops by samplers.

More adventurous plug-ins in the *Paks* include **Convolve,** which applies the sonic characteristics of one sound to another, and **Reverse Boomerang,** which mixes a reverse copy of a sample with the original. **Rappify** applies dynamic filtering to a sample and mixes it with the original, while **Modulate** mimics the old analogue synth Ring Modulation function, creating a sort of metallic effect ideal for that *Doctor Who* revival.

JARGON BUSTERS

- **Change Gain:** changes the overall volume of a sound sample by a specified amount.
- **Compressor:** adjusts the dynamic range of a sound sample to prevent the volume increasing beyond a certain level.
- **Crossfade:** a process which blends the end of one region of a sample into the start of another to make a seamless join.
- **EQ:** equalisation – tone controls that offer more finesse than the familiar treble and bass knobs on a hi-fi system.
- **Normalise:** maximises the volume level of a sample without causing it to distort.
- **Pitch shifting:** changes the pitch of a sound sample without altering its duration.
- *Pro Tools:* a professional Digidesign digital audio system.
- **Time stretching:** changes the duration of a sample without altering its pitch.



The **Change Gain** feature enables you to create weird and wacky tempo changes within an audio file.

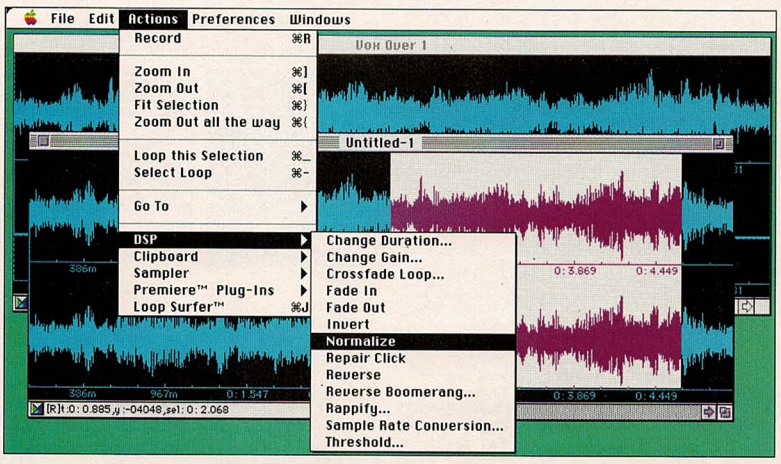
to be more impressed when you run into its plug-in facilities. Plug-ins are small programs that you access from the **Actions** menu, offering additional processing functions. The program is compatible with plug-ins made for Adobe's *Premiere* video editing suite, giving you many options for adding extra features to suit your own needs.

Hard drive install is like driving with a custard cream on the dashboard – you're not sure it'll be there after a crash

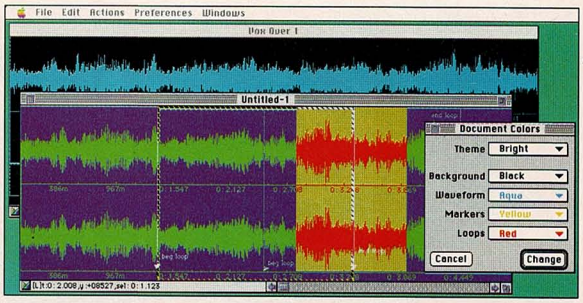
Paking 'em in

Peak is shipping with four of BIAS's own *Peak Accessory Paks*, which add well over a dozen processing functions to the program between them. This was supposed to be an introductory offer, but the company has now decided to keep the Paks with the program, making it more attractive to potential buyers. Quite simply, it justifies *Peak's* price and market position.

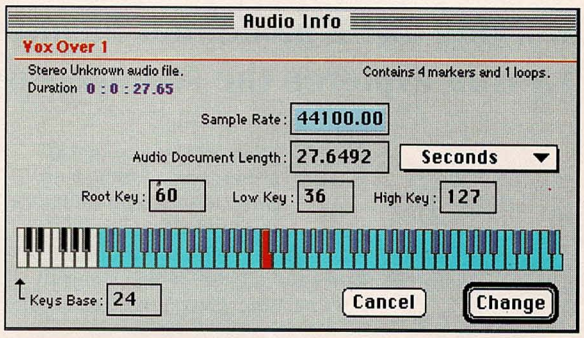
Even with the *Paks*, though, *Peak* lacks several important processing functions – reverb, EQ, dedicated time stretching and pitch shifting, for example. There's no compression either, although this is unlikely to be so high on everyone's wish list. You can get these features, but only if you are prepared to buy additional plug-ins. There are multi-purpose ones which don't cost the earth, but this is still an additional, unforeseen expense.



You'll find *Peak's* plug-ins at the bottom of the **Actions** menu. There are over a dozen in the *Peak Accessory Paks*, and the program can also accept *Adobe Premiere* plug-ins.



If blue on black is too boring for you, there are other colour schemes to choose from. Why not create your own?



The **Audio Info** window lets you set up useful parameters that enable you to use your recording with a sampler.

Peak is easy to use and, once you've mastered a few key commands, you'll find it a powerful and intuitive editor with well-integrated plug-ins. It's mainly the price, and the possible need for getting more plug-ins in the future, that will cause potential buyers to look elsewhere. But if you're happy with what's supplied as standard, *Peak* is a great little program, full of imaginative touches. **MF**

PEAK

Price: £349. **Out:** now.
Requires: either LCII or better (Quadra preferred) with 8Mb of RAM (more recommended), fitted with a digital audio card (eg Digidesign Audiomedia II), or an AV Mac or PowerMac with 16Mb of RAM, System 7.1 or later.
Contact: Natural Audio Ltd on 0181 207 1717 or fax 0181 207 2727.

FEATURES 84%
You get a good range of features for your money, especially now that Natural Audio has confirmed the inclusion of the *Pak* software. Excellent editing features.

EASE OF USE 92%
After a short period of familiarisation you'll be cutting and pasting like Bill Stickers, and processing like Moulinex.

DOCUMENTATION 84%
Decent documentation for a pretty easy-to-use program.

VALUE FOR MONEY 82%
The inclusion of the *Accessory Paks* transforms *Peak* from a worthy program into an essential one.

MACFORMAT RATING 86%

JUST A QUICK PLUG (-IN)

Audio plug-in programs can enhance many types of software. Look out for a thorough round-up of the best plug-ins in MACFORMAT soon.

SHAREWARE AND PD

A cat-shaped clock, a utility that stops your keyboard working and a game that insults you? Once more, Rod Lawton explores the strange world of shareware...

All the shareware featured here and more is on our Cover CD

There's nothing more irritating than a jumped-up programmer who thinks he can radically improve the Mac interface with just a Control Panel and a ReadMe file. Honestly. It can't be done. Everybody knows that the Finder is perfect.

Something very strange has happened. My Mac has a new default System font, 3D buttons, coloured Finder windows, a short-cut window-opening menu, a super-customisable Apple menu, ten Clipboards and an instant keyboard disabler. And it still works. With this much software, you'd expect to be overrun with Extension conflicts – nasty, nasty things that can make your life a misery. And once you start dabbling with shareware utilities, you increase the risk of getting them. However, all the System 'enhancers' reviewed in the next four pages work fine together. Is it luck, or are programmers getting smarter?

Actually, it's probably luck.

DON'T QUOTE US

This month's margin notes are from an intriguing piece of software called *Quote Of The Moment* (shareware, $5). It enables you to build a library of your favourite quotes, but also comes with 300 famous utterances to start you off. We've selected those that sail close to the border between 'wit' and 'twit'. You decide...

PABLO PICASSO

'Everything is miraculous. It is miraculous that one does not melt in one's bath.'

Enigma 1.1

GAME

Shareware, registration fee $15

Remember playing Mastermind as a kid? It's the game where your big sister would put some coloured pegs behind a cover; you had to guess what they were by lining your pegs up on a grid, while she marked your guesses according to both the number of pegs you had of the right colour and the number which were in the right place.

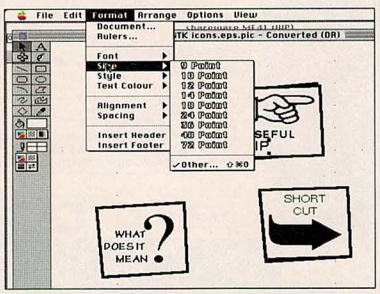
But what's the probability of guessing the right four pegs from a range of seven colours in ten moves? It's four multiplied by... No, it's seven times four times... Er, it's... It's a lot. That's where the logic comes in. Using the marks you're given for each attempt, it's possible to deduce which pegs are right and which you'll need to move or replace.

This is a Mac version. Instead of having to endure your sister's sneering put-downs as you gamely struggle to match your puny logic against the basic randomness of the universe, you get to suffer the arrogance of three animated characters, who offer such lines as: 'Not bad... for a monkey!'

It's actually rather a good game, and this version is quite funny, too. It's dressed up as a code-breaking game, and the characters testing you are suitably cloak-and-daggerish. While you're struggling with the mathematical mysteries of the universe, you can also peruse some famous truisms in a small box in the corner.

Unfortunately though, your struggle will be a short one, because unless you cough up the $15 (about £10) registration fee, you can only play the first round – 18 games.

Bust your brain with *Enigma*, based on a puzzle game from yesteryear, and get handsomely insulted into the bargain.



Use *EPStoPICT* to convert EPS files into PICT format, which then enables you to edit them – and we didn't think it was possible!

EPStoPICT v1.2.1

APPLICATION

Shareware, registration fee $24.99

You've only got to take a look at our series on graphics formats (read the second instalment on page 72) to realise how many different picture formats there are. Broadly, they break down into vector and bitmap formats, each with their own advantages, and the favourite vector format among graphics professionals is EPS (Encapsulated PostScript). PostScript is more powerful equivalent of the Mac's standard QuickDraw graphics system, both helping to define image and text shapes. This is a bit of a problem for the rest of us, because only powerful graphics applications can handle PostScript data.

Here, however, is an application which can convert EPS files into PICTs, so that you can then use *ClarisWorks*, for example, to open a file created by *FreeHand* or *Illustrator*.

There are some graphics effects possible with PostScript that you just can't translate to PICT format, but for the most part conversion works very well. One of the big bonuses is that your converted files can be edited. Why is that so amazing? Because you can't normally edit EPS files once they've been exported, even with the program you created them in!

EPStoPICT is great if you need to be able to open EPS files with basic Mac drawing packages, but it could also be useful if you're a professional designer and are stuck with an EPS graphic you can't edit. Very, very clever...

Filips Finder Scripts 1.0

UTILITIES

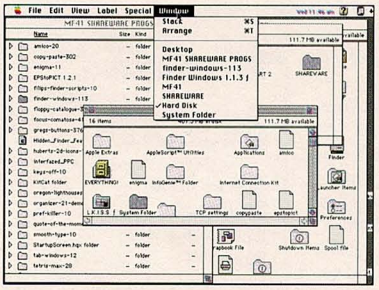
Freeware

Someone, somewhere, had to find a use for AppleScript. Apple's weighty developer's tool may not have had much impact on you, though, despite the way it enables you to record and control Finder actions. If you have System 7.5, you'll spot the **Automated Tasks** on the **Apple** menu – these are simple scripts provided by Apple to speed up your everyday Mac housekeeping, including things like **Add Alias to Apple Menu.**

Install *Filips Finder Scripts 1.0* and you'll get some more menu options to choose from:

- **DesktopIt** will move the selected file to the Desktop – useful if your Desktop's covered in windows and

Cor, look at all those automated tasks you've got now! All thanks to *Filips Finder Scripts 1.0*. Now if only we had a use for them...



What a mess! But with *Finder Windows 1.1.3* you now have a way to switch quickly between open Finder windows. Phew.

you can't get to it.

- **TrashIt** moves files to the Wastebasket – again, this is useful if you can't see it.
- **AliasMaker** creates an alias (without adding 'alias' to the name), then asks you where you want to put it.
- **SuitcaseMaker** makes, er... Suitcases. These are collections of fonts within your System Folder to keep everything tidy.
- **SuffixIt** enables you to add suffixes like '.eps' to multiple selected files.
- And **UnSuffixIt** removes suffixes from sets of files.
- **TypeCreator** enables you to change file types and creators, even on the contents of a whole folder.
- **Read-Me-Maker** turns ordinary text files into read-only files – and enables you to swap them back again.

Among these, **AliasMaker** is probably the most useful, while **TypeCreator** can get you out of a fix without having to launch an application like *File Buddy*. Indeed, there's no reason not to collect loads of Finder scripts like these and store them in your **Automated Tasks** folder.

AppleScript applications don't take up much space. Sadly, though, they do take up plenty of time. If you thought a low-level scripting language like AppleScript would come with high-level performance, think again.

Finder Windows 1.1.3

UTILITY

Shareware, registration fee $10

Much as you might despise Windows 95 and all it stands for, there is one feature that is rather useful. The Windows (uggh!) Taskbar (pah!) displays a button (huh) for each open window (oh...). You just click on that button to bring the window to the front and make it active. On the Mac, there's no immediate way of getting to a window buried under a stack of others without closing them all or moving them first – only to find the window you wanted wasn't open anyway.

This irritating oversight (ah, you're realising how aggravating it is now, aren't you?) is remedied by **Finder Windows 1.1.3,** a Control Panel which adds another menu to your Finder menu bar. The new **Window** menu simply displays a list of all currently open Finder windows, with a check mark next to the currently active one. All you have to do, in the best traditions of Mac menus, is select the name of the window you want to bring it to the front.

As a bonus, you can hit **[command] S** or **[command] T** to stack or arrange your windows respectively. If these key combinations conflict with others you use, you can redefine them using the Control Panel.

Shareware System Extensions and Control Panels can be a bit of a worry, because they're sometimes the cause of tricky System conflicts – and not necessarily conflicts that you see straight away. But this is one that's definitely worth keeping. It's a corker.

Interfazed

DEMO

Freeware

Rossi Associati is a 'loose association of creative professionals' based in California, and this is an interactive design portfolio put together by Scott Rossi, head of the group.

It's not just a slideshow of illustrations, though, because although the association includes designers, photographers and writers, a large part of its work is in graphic design, interactive multimedia and consulting.

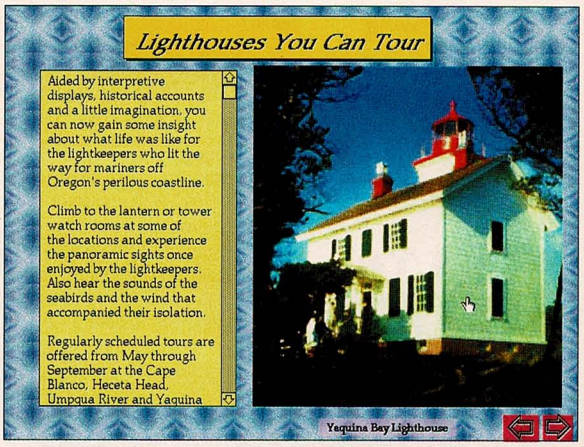
How would this suit you as the next Mac OS? Believe it or not, these are standard Mac windows, and you'll see how it's done with *Interfazed*.

And this is an extremely impressive portfolio. There are samples of logos, icons, Web page designs and – most impressive of all – user interfaces.

Interfazed is just as much an advert for the authoring program *SuperCard* as Rossi Associati. It's *SuperCard* that provides the programming environment for the newly-developed *RadWindow* software which enables you to change the shape and appearance of standard Macintosh windows, while still leaving them demonstrating standard behaviour – you can still click and drag to move them, for example.

The interface designs in this demo are initially displayed against a black background, but you can easily switch this to white or 'punched through', enabling you to see the Finder through them. You can also click on the Finder area to switch tasks, too.

You've got to take a look at this demo, not just to marvel at the sounds, designs and interface ideas, but to pick up ideas for your own programming efforts. Be warned, though – this is a lot to live up to.


Lighthouses You Can Tour
Aided by interpretive displays, historical accounts and a little imagination, you can now gain some insight about what life was like for the lightkeepers who lit the way for mariners off Oregon's perilous coastline.
Climb to the lantern or tower watch rooms at some of the locations and experience the panoramic sights once enjoyed by the lightkeepers. Also hear the sounds of the seabirds and the wind that accompanied their isolation.
Regularly scheduled tours are offered from May through September at the Cape Blanco, Heceta Head, Umpqua River and Yaquina
Yaquina Bay Lighthouse

Interested in lighthouses? Got the *HyperCard Player?* Going to Oregon? Heard about *Oregon Lighthouses?* Is anyone reading this?

Oregon Lighthouses

DEMO

Freeware

While it's not exactly cutting-edge interactive multimedia, this *Oregon*

Continued on next page

YOGI BERRA
'You can observe a lot by watching.'

SHUNRYU SUKUKI
'When you do something, you should burn yourself completely, like a good bonfire, leaving no trace of yourself.'

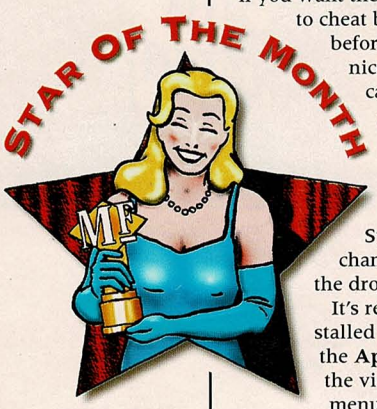
ALBERT EINSTEIN
'As far as the laws of mathematics refer to reality, they are not certain; as far as they are certain, they do not refer to reality.'

SOEN
'All beings are flowers blooming in a blooming universe.'

CONFUSED ABOUT SHAREWARE?

- Shareware is a form of 'try before you buy' software selling and it's a great idea, so long as you're honest. When you get some shareware, the documentation file accompanying it will tell you how much it costs – typically somewhere between US$5 and $40 – and where to send your money. If you like the software and decide to keep it, you're morally obliged to cough up. Not only do you get the satisfaction of boasting how honest you are to friends, but the author will often give you something for registering, like a printed manual or updates when they're released. The most common problem is sending money abroad but as many shareware authors now accept credit cards, it's getting easier.
- Freeware means that you don't have to pay for it at all. There are many variations like postcardware, where you have to send a pretty postcard to the author.

Freeware is not strictly the same as Public Domain (PD) because although you don't pay for freeware, the author keeps copyright and you must follow his conditions to use the program. This often means keeping all the files together and neither using nor selling them for profit. If you're able, you're allowed to adapt and improve PD programs any way you like.



Amico 2.0

UTILITY

Shareware, registration fee $10

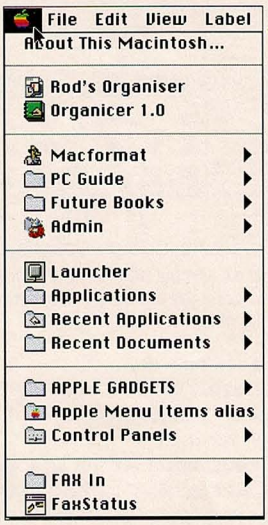
The **Apple** menu is a very useful gadget, especially in System 7.5 where you can add hierarchical folders. Its only real flaw is that items are always listed alphabetically, and if you want them to appear in a different order you have to cheat by adding spaces or strange characters before the names. While we're at it, it would be nice, too, if you could separate your application aliases from your documents, or your regular System items, like Control Panels and Recent Documents, from the personal stuff you've added.

Dennis Chronopoulos agrees with you. And it's Dennis you have to thank for this System Extension which enables you to change the order of your **Apple** menu items at the drop of a hat.

It's really very simple. With the Extension installed and your Mac restarted, you just open up the **Apple Menu Items** folder and select one of the views. If you choose **View by Name,** the menu items are listed alphabetically. View **by Size** to display them largest first; **by kind** to sort them into applications, then files, then folders (one of the more useful options); or **by Label** and **Date** for the corresponding effects on the menu.

But we've saved the best option until last. If you view **by Icon** (or **by Small Icon**), the way you arrange the icons in the folder window dictates their order in the Apple menu. You can add dividers too – create a new folder whose name starts with a dash (–) and put it in the right place in the folder window for immediate effect. You can even give the dividers titles by starting the folder names with a dash, typing the title, and ending with a [<] symbol.

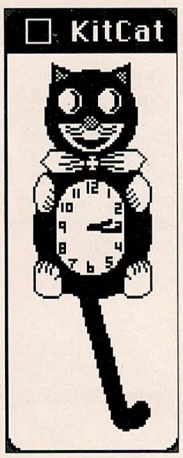
The author warns that you might get conflicts with other utilities that fiddle about with the Apple menu, but says the software works on a wide range of Macs. Well it worked for us, and we love it.



Now you can choose the order of the items in your **Apple** menu, thanks to *Amico 2.0.*

WOODY ALLEN
'I don't want to achieve immortality through my work. I want to achieve it through not dying.'

OGDEN NASH
'Progress might have been all right once but it has gone on too long.'



A wall-mounted kitty-clock – every home should have one. Or at least every Mac.

CARL SAGAN
'To make an apple pie you must first invent the universe.'

Lighthouses stack for *HyperCard* is much better than the *HyperCard* offerings we usually see. The Oregon Parks Department has taken the trouble to use Apple's clunky *Color Tools*, a plug-in stack for *HyperCard*, to display full-colour PICTs against coloured backgrounds with coloured fields and buttons, too (gasp!). It's also done rather well in incorporating various picture fade effects.

Unfortunately, the overall screen design and font choice are less impressive. Still some work to do there, lads. And the whole stack does rather assume you might shortly be going to Oregon. And that you're passionately interested in lighthouses. And you have a copy of the *HyperCard Player.*

Nevertheless, as a piece of *HyperCard* programming, *Oregon Lighthouses* is worth picking apart to see how the various effects were achieved – and then trying to do them better. Mind you, if you've already looked at the *Interfazed* demo, you might have decided you'd be better off learning *SuperCard* instead.

KitCat 1.1.0

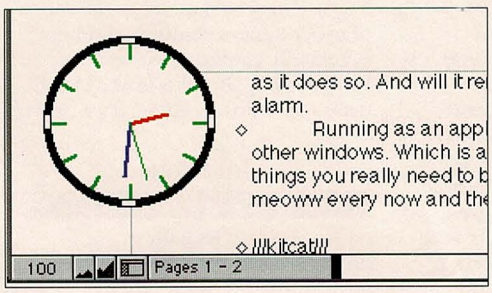
CLOCK

Shareware, registration fee $5

Anyone who knows anything at all about style will know that a wall-mounted cat-clock, complete with swinging tail for a pendulum and rolling eyes, is *de rigueur* in any modern household. However, such items can sadly be rather hard to get hold of, so a Mac version may be the closest you can get.

There are no Extensions to install, no Control Panels to sort out and no restarts to fiddle with before you can use *KitCat.* It's a straightforward Mac application that runs in its own window and uses very little RAM. And, being a cat clock, it will meow on the hour, even counting the hours as it does so. And will it remind you of important events with a cat-alarm.

Running as an application, though, it does disappear behind other windows. This is a bit of a problem for a clock, since clocks are things you really need to be able to see all the time. Never mind, it will meow every now and then, just to remind you it's still there.



Fancy a nice analogue clock instead of the usual weedy digital one? You can make *TrueClock* stay in front of all your other applications, too.

TrueClock v1.5

CLOCK

Freeware

If a wall-mounted cat-clock isn't really your cup of tea, then *TrueClock 1.5* is a rather simpler (and, some might say, rather more elegant) timepiece. You can drag it anywhere on-screen you like and resize it, and unless you enlarge it to near full-screen size, it only uses 128K of RAM. If you don't like the standard display, there's a design dialogue box where you can change the colour and thickness of the hands and of the graduations round the face. You can also change the colour of the background.

Like *KitCat, TrueClock* runs in its own window as a standard Mac application. Again, this means that other active applications and windows can cover it up. There is, however, a special 'omnipotent mode' System Extension. Install this in your System Folder and the clock will always appear in front of whatever else you're doing.

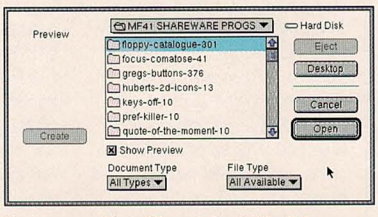
TrueClock is a natty little alternative to the purely digital menu bar clock that you're probably familiar with. But if you're going to find it very useful, you'll really need that 'omnipotent mode' System Extension, which, as all shareware fans will know, is just one more conflict waiting to happen...

Greg's Buttons 3.7.6

UTILITY

Shareware, registration fee $15

Greg's Buttons is one of the better-known System utilities amongst Mac cognoscenti. Although the Mac's interface is certainly attractive to look at as well as use, there's a lot of white, a fair amount of black and, altogether, rather little colour. And while opera-



Notice something different about this dialogue box? Like the elegant typeface and 3D buttons? That's *Greg's Buttons*, that is.

Organizer 2.1

APPLICATION

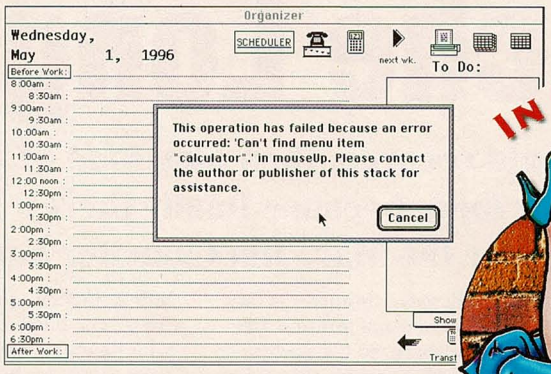
Shareware, registration fee $25

Is your life in a mess? You don't know what to do next? You'd call the Samaritans but you don't know the number? Then you need a personal organiser for your Mac. If you bumbled through this month's cover-mounted CD-ROM and found *Organizer 2.1*, you might be tempted to think you'd found the perfect answer. But you haven't.

Organizer is a *HyperCard* stack that does all the things an organiser should – it records your appointments, tasks and telephone numbers. However, it's also a demo that will junk all your information after 30 days if you don't send the author a big, fat $25 shareware fee.

Organizer is fussy, poorly-designed and overpriced. Its date displays are cleverly worked out, but the mono design and limited flexibility make a poor choice. Oh, and the calculator doesn't work.

Nope – you're much better off going for *MacBoy* (MACFORMAT 33, shareware, £10). Also written in *HyperCard, MacBoy* is faster, better-looking, more versatile and neater. And, by golly, it's British.


Organizer
Wednesday, May 1, 1996
SCHEDULER
To Do:
This operation has failed because an error occurred: 'Can't find menu item "calculator".' in mouseUp. Please contact the author or publisher of this stack for assistance.
Cancel

Is your life in a mess? It will be if you use *Organizer 2.1* and neglect to pay the shareware fee.

ting systems on other computers might give you nice 3D buttons and coloured windows, the Mac's are boringly monochromatic.'

Until you install *Greg's Buttons*, that is, whereupon your buttons assume an elegant 3D embossed style, your windows can be any colour you like and you can choose alternative fonts to Chicago for menus and dialogue boxes. The software also fixes the inconsistency in System 7.5 where some **Open** and **Save** dialogue boxes display colour icons while others only display black-and-white.

Greg promises that once you try his buttons you won't ever want to go back. It's true; you won't want to. But you might have to if your favourite applications take exception to the software. This is a possibility, because *Greg's Buttons* is a Control Panel that does lots of tricky low-level things to your System. These aren't a problem in themselves, but because some applications designers also try and do tricky low-level things to the System, clashes can take place. That said, the problem only applies to the dialogue box colourisation feature (which you can switch off altogether), and Greg has compiled a list of applications that don't much like his Control Panel. The software also includes an option for you to build an exclusion list of programs that it shouldn't tamper with.

Even though potential conflicts may worry you, the results are much nicer-looking than the standard Mac interface, and any incompatible applications will continue to work perfectly once you've added them to the exclusion list.

Greg's Buttons is updated regularly and assiduously. This means any problems with System updates or new applications are quickly addressed. A very classy piece of shareware indeed.

KeysOff 1.0

SECURITY

Shareware, registration fee $10

Anyone with a small child will know that miniature humans and Macs don't mix. For some reason a keyboard represents an irresistible temptation to little fingers, and you only have to leave the room for 30 seconds to find all your files renamed 'thrgtyp', your System file in the Wastebasket and your Mac feebly flickering a fatal error message... Or is it just *my* kids?

Keys Off
KeysOff 1.0
Keys Off Hot Key: ⌘⌥K
Set Hot Key
Keys On password:
keyson
Keys Off disables mouse
Play Keys Off sounds
Disable power key
...but only when keys off
Keys Off is shareware. If you continue using it, you must register by sending $10 to Kagi Shareware. See the Read Me file for more details.
BLUE GLOBE SOFTWARE

KeysOff stops prying little digits from stabbing at your keyboard while you're out of the room.

KeysOff was designed to avoid just such a problem. By typing a simple combination, you can disable your Mac's keyboard so that even the most thunderous and persistent juvenile bashing produces no more than a few warning beeps.

The added bonus, though, is that if you work with other people, you can stop them furtling about amongst your personal documents whilst you're at the baguette shop. This is because you can set a password, which has to be typed in without your being able to see it on-screen, before your keyboard will work again. And you can opt to disable the mouse too, simply by clicking the relevant button in the *KeysOff* Control Panel.

Ah, but what if you forget your password? Will you ever be able to use your Mac again? No.

Ha! Only joking. If you switch your Mac off and then restart it, your keyboard and mouse will be back to normal. This does mean that *KeysOff* isn't the ultimate security measure, but it's still 100% effective against rampaging tots and casual office snoops. It's really rather good and very simple to use.

Tetris Max 2.8

GAME

Shareware, registration fee $10

The best version of *Tetris* ever programmed is on the Game Boy. Sorry. *Tetris Max*, though, is very good and certainly looks and sounds a lot better than the original black-and-white commercial Macintosh game. There's a nice soundtrack, too, which sounds even nicer with decent speakers.

Unfortunately, although it moves smoothly and prettily, *Tetris Max* lacks the hard-edged gameplay that's going to appeal to real *Tetris*-heads. Worst of all is the fact that setting up a real 'tetris' (using a 'line' shape vertically to remove four lines at once) doesn't score you heaps of points. Which is a shame, because it's a real test of skill so it deserves mega-scoring.

And while you can start at different levels and with different amounts of 'debris' to start with, you have to fiddle about with a Preferences screen to do it. *Tetris Max* is a real looker, and quite good for beginners, but for real *Tetris* nutters it's a bit lacking. Now, where's my Game Boy? (Oi! Who's taken the batteries out...?) **MF**

W H AUDEN

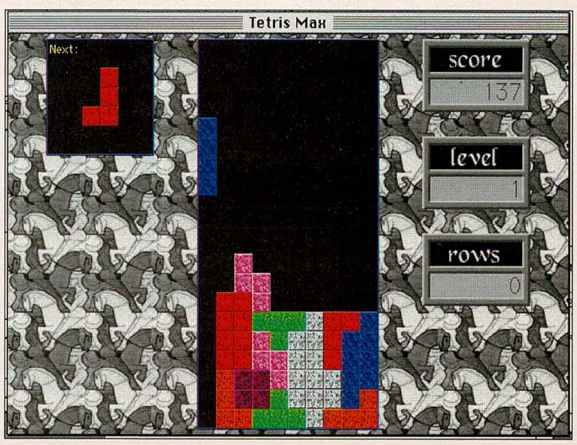
'We are here on earth to do good for others. What the others are here for, I don't know.'

SIR RICHARD FRANCIS BURTON

'Indeed he knows not how to know who knows not also how to un-know.'

ANON

'Time is God's way of making sure everything doesn't happen all at once.'



Tetris Max may not be cutting edge amongst *Tetris* clones, but it sounds good and looks great... and we're just about to make a 'tetris', by the way.

Apache Longbow

Dust off your old records, then play *Ride of the Valkyries* really loud, because finally there's a decent helicopter sim for the Mac. Jim Chandler hums along...

GAINING IN TRANSLATION

When a helicopter is hovering, each rotor blade is moving through air disturbed by the one in front, reducing the amount of lift it can produce. As the helicopter moves off, though, it reaches a certain speed where each rotor moves through undisturbed air. The extra lift gained by this speed is called translational lift.

HIND SIGHT FORESIGHT

Digital Integration has followed up on the success of *Apache Longbow* on the PC with *Hind*, a simulator based on a Soviet helicopter. If *Apache Longbow* does well on the Mac, who knows...

Helicopter simulations for the Mac are few and far between, so it's always good to see one. But when it's from Digital Integration, a company that's been churning out decent flight sims since Sinclair Spectrums were flavour of the month, chances are it's going to be something special.

Apache Longbow is Digital Integration's first foray into the Mac arena. It was released first on the PC and was very well received, so how successfully has it made the transition? Many ported PC games retain their colourful set-up screens rather than the menus and dialogue boxes used on the Mac, and *Apache Longbow* is no different. There isn't a Mac menu or window in sight but, with its very slick preferences and menu screens, it's so well designed that you won't get lost. Briefing screens and the narrated briefings are very clear. Your routes and waypoints are shown on a map, and there's even an option to show a little animated 3D window of your route. The missions are interspersed with lovely (if rather grainy) raytraced animations. In short, the whole game shows impressive attention to detail.

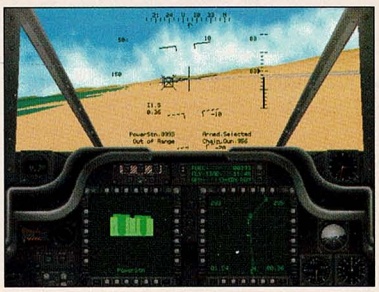
The Gouraud shading on the landscape enhances the scenery, as here in the hills of the Yemeni desert.

What, why and where?

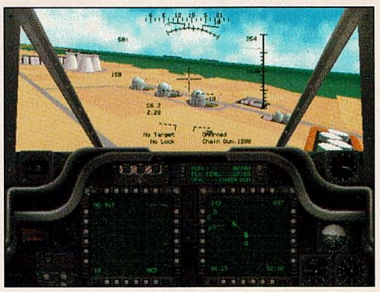
Flight sim convention dictates that the game should be named after the hardware involved, and in this case your mount is the McDonnell-Douglas AH64D Longbow Apache, an attack helicopter with all the extras. It's astonishingly manoeuvrable, and can even perform rolls and loops. It's also got lots of weaponry hanging off it, like a 30mm chain gun, Hellfire anti-tank missiles and unguided 70mm rockets, all targeted using the Longbow radar system which lends the helicopter its name.

The actual flying is no disappointment either. DI has used a technique called Gouraud shading to model the scenery and other features, so that hills and buildings are in shade on the side away from the sun. It may not sound like much, but it does add a lot to the realism of the scenarios. The landscapes themselves are also pretty good. Not as good as, say, *Flight Unlimited's* satellite-photo-based vistas, but far better than, for example, the sharply-angled hills you have to navigate in *F/A-18 Hornet 2.0*.

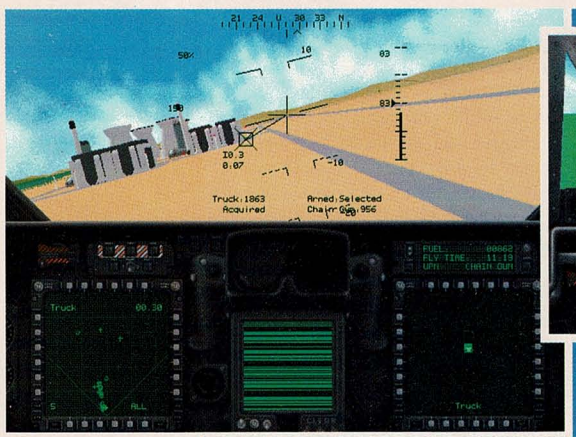
Flying a helicopter takes both hands and both feet. On a computer, you'd very soon run out of hands to operate all the controls. Digital Integration has opted to simplify the controls somewhat (there's no throttle, for example), but it's still a test of coordination to get the damn thing to hover. If you're faint-hearted, or poorly coordinated, there's an 'arcade' option which simplifies things still further. Until you've got the measure of the craft and all its weapons and radar options, this is probably the best one to use. Despite this, the simulator handles helicopter aerodynamics well enough to simulate both the translational lift



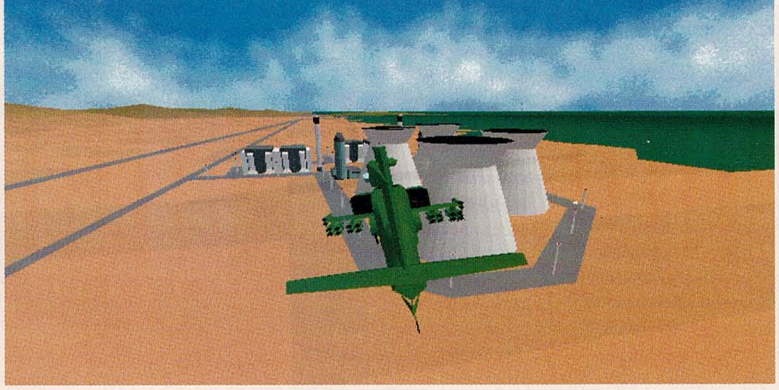
The Longbow radar system can pick out likely targets for you while you concentrate on flying.



The detail of the ground features makes the view from the cockpit very realistic.

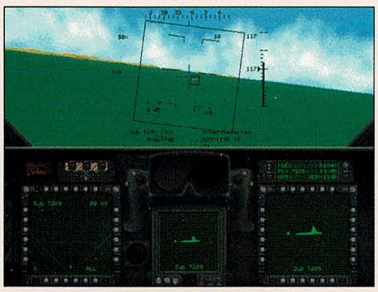


Just about to destroy a vital truck delivering sandwiches to an enemy power station.

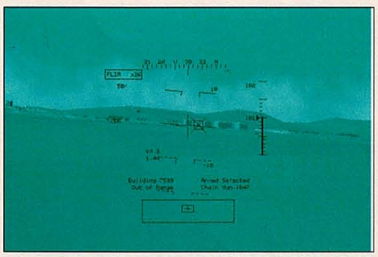


From here you can see the impressive amount of weaponry that the Apache can carry, as well as the quality of some of the ground features.

Rescue hostages from this enemy base. You can do a lot of damage with just one helicopter!



A damaged enemy submarine is about to get a generous helping of missile pie.

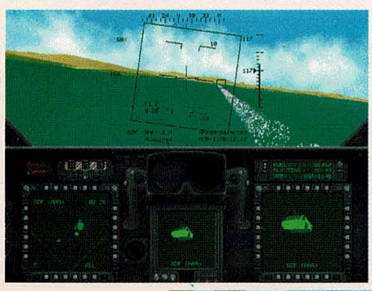


You can choose to look through your helmet-mounted infra-red sights. Wherever you look, your weapons will point, too.

and ground effect of the real thing.

When (if!) you feel in control, the missions are a joy. After a spot of training at Fort Hood, you can choose a war zone to liberate – Yemen, Korea, or Cyprus, each with its own particular set of missions and objectives. If you get bored with the single missions, there are three sets of campaigns, where several related missions follow on logically from one another, and your performance in one mission is used to determine what happens in later missions.

You normally fly with other Apaches, and as you hurtle along at 120 knots, a mere 50 feet or so from the deck, their radio chatter, as well as the timely warnings of your gunner (the Apache is a two-seater), help you to keep track of what's going on.



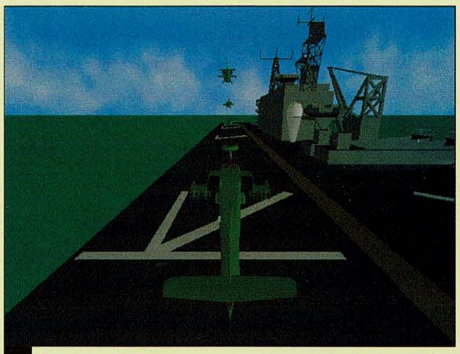
This is the gunner's station. From here you have better targeting equipment than the pilot.

The pilot actually sits behind the gunner. This station has two multi-function displays, giving you radar and navigational information, as well as the status of your helicopter.

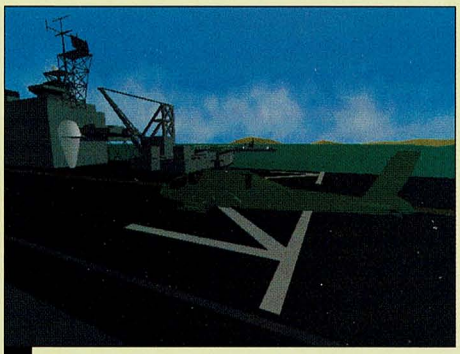
NOW YOU SEA IT...

1 This is USS Tarawa, which will form your main base for some of the *Apache* missions.

2 Tarawa might be a big ship, but it's a pig to land on, because it never stops moving!



3 Time to go. The rest of the flight can be seen heading off the Tarawa in front of you.



4 This is the Apache. It's... um, distinctive. No, let's be honest – it's actually extremely ugly...

Sooner or later, though, bashing along at treetop height, avoiding enemy flak and missiles, as well as single-handedly saving the free world, is all going to get a bit run-of-the-mill. When it does, you can network your Mac to another Mac or PC running *Apache Longbow*, and either try to shoot the other guy down or enlist his help as you fight the good fight. And remember what we said about the Apache being a two-seater? With two machines linked together, one of you can fly as the pilot and the other as gunner in a single craft.

It's hard to find any major gripes about *Apache Longbow*, apart from its extremely hefty system requirements. If you're going to go for a full installation, you'll require 25Mb of memory, and a colossal 180Mb of disk space! The game will run in as little as 8Mb, and you needn't copy all the files to your hard drive, but even so, *Apache Longbow* will only run on a PowerMac. Also, it only runs at a resolution of 640 x 480. Given that a lot of Mac displays are capable of higher resolutions than this nowadays, it's a shame that Digital Integration didn't make use of the potential extra screen area in the same way that games like *A-10 Attack!* do. All these, however, are minor quibbles in the face of real class like this. **MF**

PAST MASTERS

Apache Longbow is by no means Digital Integration's first attempt at a helicopter simulator; the company's Spectrum game *Tomahawk* (remember that?) was released in 1985!

APACHE LONGBOW

Price: £39.99. **Out:** now.
Requires: PowerMac, 8Mb (pref. 16Mb) of free RAM, System 7.5 or later, 45Mb of hard disk space (180Mb for full installation), 13-inch colour monitor, CD-ROM drive.
Contact: Digital Integration on 01276 684959

GRAPHICS 89%
Nothing particularly flashy, but clear and very realistic.

SOUND 68%
Wokka-wokka-wokka.

GAMEPLAY 91%
Interesting, well thought out missions, superb two-player options.

MACFORMAT RATING 92%

MACFORMAT Classic

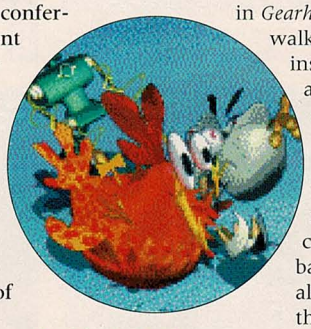
HELI HELL...

Comanche, reviewed in MACFORMAT 35, had great potential, but turned out to be 'a technologically flawed disaster area' and earned a paltry 43%. The graphics were great, but the game was too big to be playable. If you missed that issue and want to take a look for yourself, turn to page 115 for details of back issues.

Gearheads

Make a game simple, and the eminent professors of video gaming will do their best to complicate things. Our man on the spot reports from Sao Paulo...

There was an air of tension when the scholars of video gaming gathered for the 15th Videogamology Convention in Sao Paulo last month. After all, it would be the first such conference without the eminent *Tetris*-ite Prof Stanislavski, and, owing to his chronic closet *Lode-runner* withdrawals, Prof Hashimoto was still being held in the Osaka Home for the Especially Deranged. Neither would be there to debate the qualities of *Gearheads*.



Shocking, isn't it. Here you can see a chicken getting double whammied – zapped by the electric robot *and* frightened by a skull. Some of the animations look superb.

It was also doubtful at one stage whether the Luxembourg School – led by Prof Scheltung and Dr Madeleine Overmaas – would be in attendance. They had become so wrapped up in two-player *Gearheads* that they had threatened to take a two month tournament sabbatical from academic duties to play the game with a group of Himalayan Buddhist Monks.

'We are intrigued,' wrote Overmaas in the course of a robust correspondence with the Sao Paulo organisers. 'The game is like a Desktop version of *British Bulldog* played with wind-up toys. All the player does is aim the toy and release it from his or her half of the screen. A point is scored for each toy to successfully get past enemy defences and the first to 21 wins the round. Fantastically simple, yet hard, and thus in perfect accordance with Scheltung's principles. The crux being that each toy has its own qualities.'

Indeed, the esteemed Prof Prescott McLean from Saskatchewan was to lecture on the capabilities of each toy in *Gearheads*. The cockroach, walking glove and UFO, for instance, can all move across the screen very quickly, bouncing their way past opponent toys; the bulldozer, Santa and large robot meanwhile are slow but can push onrushing toys backwards. The robot can also shoot enemies, while the electrical gadget toy can destroy enemies by zapping them. The unpredictable skull scares other toys, making them turn around; the magician disappears and reappears from time to time, while the clucking hen can actually lay eggs, which hatch into chicks, doubling your chances of getting a toy across the screen to score.

In the end, in order to help fend off Dr O'Donaghue's attack on one of their favourite games, Scheltung and Overmaas finally did turn up in Sao Paulo. 'One just can't ignore the secondary nature of the controls,' O'Donaghue told a hushed audience in the main conference hall. 'You simply release the toys, and they run off by themselves. The gameplay lacks sophistication, strategic play is impossibly diffuse and, despite the variety of toys, it gets rather samey after a while.'

After the ensuing food fight, however, McLean took to the lectern and roundly rebuffed O'Donaghue's failure to take into account the fact that there were four backgrounds, which contain obstacles and power-ups to vary play.

Bombastic! Make sure you wind the timebomb up all the way, because when it runs out of time its eruption is worse than being stuck in a hall full of arguing video games professors.

Poultry fever. The possibility of catching salmonella notwithstanding, Dr Overmaas was particularly captivated by the idea of launching hundreds of chickens onto the playing area, watching them lay eggs, then waiting for the chicks to hatch and run to the score line.

It's the battle of the monster trucks. Here we see a convoy of bulldozers heaving their way past the rocks and mud to the points line.

The Luxembourgers were ecstatic. Overmaas shouted her approval of the inclusion of two distinct modes of play against the computer, the fact that you can have up to 12 toys in your toybox, and the short-term hilarity of the two-player mode.

When the tuna salad and eggshells had been scraped from O'Donaghue's balding head, he and a respectful group of Japanese delegates retreated to a café. Many of them admitted the excellence of the animations, and some conceded that the game sounds were most amusing. They were all, however, rather doubtful of the game's addictiveness and therefore its long-term interest value. But then, they had never understood the enthusiasm of the *Tetris*-ites either... **MF**

Terrain types

There are four terrain types in the game: metallic floor, mud, tiled floor and icy river. Each has its own obstacles: the mud is sticky and rocks obscure your path; the the icy river features impassable snow drifts and cracks open. The metallic floor has trapdoor lifts, conveyors and pop-up blockers.

How tough?

Gearheads has three levels of difficulty and two play styles for a single player. You can play the computer in a ladder tournament with preset levels, or define a match just as you would in a two player game, choosing your own toys and backdrop terrain. Greater confusion can be added to the affair by choosing a large number of different toys for your toybox. You can have all of them if you want.

What's it all about?

Gearheads is like a war sim, only using toys. You can play against either the computer or another human, and the protagonists are a variety of clockwork toys, each with specific attributes. You launch your toys in turn from your pointer, which you can move up and down your side of the screen for maximum strategic advantage. You prepare your next toy in the toy box, using the winding gauges to judge whether it's ready to release yet...

The wind-up roach at the top of the picture here has run down, and other toys have stalled on obstacles placed on the course (several toys on the one at the top right).

Gearheads

Price: £29.99. **Out:** now.
Requires: Quadra or better, 8Mb of RAM, System 7.1 or later, 8Mb of hard disk space, 256-colour monitor, double-speed CD-ROM drive.
Contact: Philips Media on 0171 911 3081.

Graphics — 85%
Fun, highly detailed animated toys. Lots of colour too.

Sound — 70%
Fairly simple, quirky and occasionally extremely cacophonous.

Gameplay — 75%
Excellent short-term fun in two-player mode, and a good high-score challenge against your Mac.

MACformat rating — 79%

MacGOLD Direct

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BrainDead 13

Astonishing animation and wild action but what about the gameplay? Hold on to your baseball cap, as you prepare to do battle with the evil Dr Neurosis.

In many ways this is an absolutely astonishing game. The all-action animation is of TV quality. The graphics, while slightly blocky on individual frames, are quite superb considering the speed of movement employed. The brilliant visual invention is accompanied by a top-notch soundtrack. All good news? Not quite; but we'll come to that shortly.

BrainDead 13 (the title is ironic: there are no dozen predecessors) puts you in the character of Lance, a plucky baseball-capped software engineer with an old-style André Agassi haircut. While fixing up a computer in a mysterious castle, you find yourself confronted by the evil Dr Neurosis and his plans to take over the world. You run round various bits of the castle and battle with several nasty monstery things, including the hook-handed Fritz – a half-human assassin with a very witty line in methods of execution (the blender is my favourite). The plot is as deliberately hackneyed as the range of action is breathtaking. This is surely some of the finest quality animation, both technically and creatively, to have appeared in a Mac game to date.

To think this was a delicious vampire babe: Vivi is just full of little surprises like changing into a bat...

You'll find Fritz among the funniest of Dr Neurosis' assassins – but look out for Death by Blender.

So what's the problem? Well, your game input is restricted to the space bar for actions such as jumping and hitting, and the cursor keys to move in the four major compass directions. Move in the wrong direction or shift at the wrong time, and you end up not just brain-dead but body-dead too – although fortunately you always come back to life straight away, and even that's done with wit and style. But this life on a razor's edge makes the game immensely frustrating to play.

It goes something like this: Lance stops; you keep trying a new direction – usually getting blown away in an amusing and apt way – until you hit on the one that enables you to escape; Lance runs for a bit then stops, and you repeat the trial and error; and so on. There seems to be no feedback, structure or logic to what happens – you have no idea if or why you are doing the right or wrong thing. You just stumble from one crossroads to the next and wait for the outcome. After perhaps two to three hours of getting not very far, you're likely to simply give up.

Like *Dragon's Lair*, reviewed in MACFORMAT 26, *BrainDead 13* is a gee-whiz game, better to watch a demo of than play. It's a brilliant set of cartoon alternatives you can select from the cursor keypad. Gameplay is minimal – so small that it only just qualifies as a game rather than entertainment.

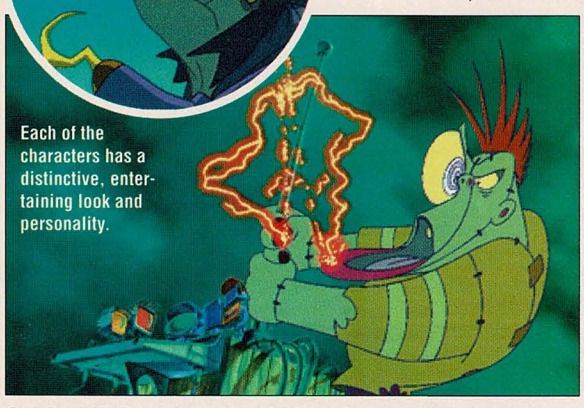
But let's be positive. Not everyone likes those oh-so-clever exploration games where everything has its own internal logic, and individual puzzles can take you hours to solve. If you want dazzling cutting-edge animation action and no strategy, this is as good as it gets.

ROB AINSLEY

ReadySoft's latest interactive cartoon offers even more impressive animation than its predecessors – but is it any good as a game?

Danger lurks around every corner in *BrainDead 13*, but are you fast enough to escape it?

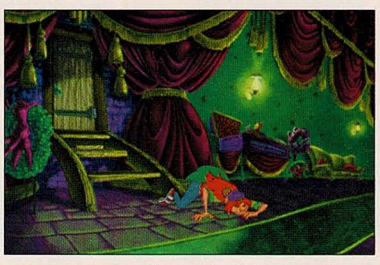
This is Dr Neurosis himself – the evil masternind behind the plot you have to foil.



Each of the characters has a distinctive, entertaining look and personality.

BrainDead 13's B-movie plotting and menagerie of gruesome characters guarantee a game that's full of energy.

As befits the Tex Avery feel of *BrainDead*, the tale would be incomplete without a *femme fatale.*



As Lance, you have to explore the castle and save the day – but it's hard to know which way to turn.

WHAT IS BRAIN DEATH?

If your heart stops you can be revived, but if your brain's dead, then you're dead. There's no single sign to indicate brain death, but if you have no blood flow through it, if it shows no electrical activity on the EEG, and if it isn't activating your lungs or reacting to any stimuli, it would take a brave person to sell you life insurance.

FROM THE MAKERS OF...

ReadySoft's other games include *Dragon's Lair* (44% in MACFORMAT 26) and *Space Ace* (36% in MACFORMAT 26) – both showpiece animations like *BrainDead 13*. Demos for each are included on the *BrainDead 13* CD-ROM.

BRAINDEAD 13

Price: £34.99. **Out:** now.
Requires: 4MB free RAM, 256 colour monitor, CD-ROM drive.
Contact: Empire International on 0181 343 9143.

GRAPHICS Brilliant, witty, inventive, stylish.	95%
SOUND Well-crafted and just right.	85%
GAMEPLAY Brain not required on journey.	30%
MACFORMAT RATING	62%

The Dark Eye

Haunted houses and gorgeous graphics – just like Edgar Allen Poe used to make... but does *The Dark Eye* live up to your wildest gaming dreams – or nightmares?

There is a philosophy circulating through the software world that runs something like this: 'Computer games are the entertainment product of the future. Computer games currently lack any artistic or intellectual depth. We at [insert software firm's name here] will produce the first computer game to be hailed as art.' Not only does Inscape, creator of *The Dark Eye*, subscribe to this theory, the company probably has it mounted in a huge golden frame in the lobby, where programming acolytes can bow down and pay their respects every morning.

You get to do this embroidery in the game. Sets the pulse racing, it does.

We'll decide whether *The Dark Eye* is art or not later. First and foremost it's a point-and-click adventure, set in a haunted house you explore using only your mouse. Your character (whose name changes throughout the game – again, more of that later) has to piece together the family history of the Poynton family by wandering from room to room, discovering the memories locked into certain items. These memories transport your character back to the time of their occurrence and you must fully investigate them before that episode in the Poynton's family life can be finally solved.

Some of the traditional aspects of adventure gaming are immediately apparent. The cursor – a ghostly hand – changes shape to show you which movement options are open to you, and the locations are mainly picture stills. The idea of movement is conveyed by the sound of footfalls, coupled with the fade-out of one scene and the fade-in of the next.

However, what is missing from the traditional format is the opportunity to collect and use items to solve puzzles. *The Dark Eye* isn't so much a puzzle game in the mould of the *Alone in the Darks*, *Mysts* and *Angel Devoids* of this world: it's more of an elaborate hide-and-seek extravaganza.

Completing the game is a matter of finding all the secrets, and only the threat of imminent boredom is likely to prevent that happening. The only skills you'll need to complete the game are perseverance and accurate use of the cursor to find 'hot' items that enable you to progress.

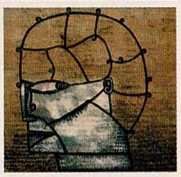
Looking carefully at the fish will spark off a new dream sequence. Why? No idea.

And now the 'art' question. *The Dark Eye* short-changes you when it comes to gameplay, and provides weak characterisation. The name of your character at the start of the game is never made clear, but after a while you get to play most of the Poynton family – a whole liquorice assortment of Victorian weirdos. But the game does generate a fair amount of involvement. Whether it comes from the Poe-esque dialogue, the genuinely disturbing dolls used to animate the game's characters or the eerie sound effects that punctuate your lonely wanderings through the house, there can be no doubt that *The Dark Eye* achieves a certain atmosphere. As an intelligent and accomplished pastiche of Poe and the gothic horror novel, *The Dark Eye* edges it over *Doom*. But frankly, who cares?

If the popular artistic game ever does arrive, you see, the biggest item in its electronic panniers won't be its 'look-at-how-many-books-I've-read' artistry or literary allusion, it'll be an enormous, gravy-dripping portion of gameplay pie. *The Dark Eye* is fat in the face with decorational cleverness but positively anorexic with playability. It won't be a success for that very reason.

The great 'art versus game' experiment is now surely over. It's time to get that gold frame down from the wall and replace it with one that says simply 'Provide exciting and involving challenge' – then we'll all be a lot happier.

JAMES ASHTON



The game is based around the dubious science of phrenology (the ability to judge a person's health and personality by the shape of his head).

TAKE IT SLOW

Although *The Dark Eye* will run on a Mac with an 030 processor, for instance an LCII, it's a frustratingly slow process. To play the game at any pace, you'll need a fast 040 machine – something like a Quadra – and a quad-speed CD-ROM drive.

This is one of the memory sequences. Arty pictures and dodgy poetry – it's the future of interactive entertainment.

It's a love letter. It was written a while back by the lady you are now – to the gentleman you were a few minutes ago. You may now be confused.

The maid comes to check that you're alright. 'I'm bored,' you cry, but she still locks the door behind her.

THE DARK EYE

Price: £39.99. **Out:** now.
Requires: LCII or better, 8Mb of RAM, System 7.1 or later, 256-colour monitor, double-speed CD-ROM drive.
Contact: Warner Interactive Entertainment on 0171 391 4300.

GRAPHICS 70%
The combination of computer graphics and puppets is clever and imaginative, if a little technically uninspired.

SOUND 71%
Good effects build the atmosphere and the music's not bad either.

GAMEPLAY 31%
Less gameplay action than that little puzzle in your **Apple** menu.

MACFORMAT RATING 55%

YOU WANT MORE?

The other game available from Inscape this month is *The Residents' Bad Day on the Midway*. Find out whether it fares better over the page...

The Residents' Bad Day on the Midway

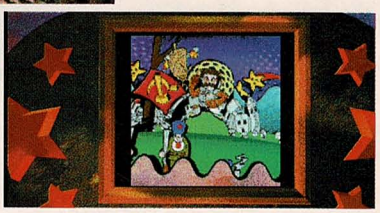
As Jim Morrison would probably have sung if he'd ever set eyes on a Mac, 'Strange games are coming...' Well, here comes one now, and it's weird with a capital W.

Another 'lovely' sideshow where everyone is happy and smiling. Enjoy yourself or die...

This is the fortune telling machine at the entrance to the park. You won't get a word of sense out of it.

Games programmers are queer fish. Sat alone in their unheated garrets, beavering tirelessly at their keyboards, part of their personality – their hopes, fears and aspirations – gets embedded into the software they so lovingly craft. The man behind *Space Invaders* was clearly a little paranoid, the guy who wrote *Doom* gets a peculiar glint in his eye whenever anyone mentions chainsaws, and *Bad Day at the Midway's* animator Jim Ludtke obviously watches too many B movies and hates paying his taxes.

The famous 'concentric circles' torture. Made absolutely no sense at all, this one.



The 'Shoot a Commie' sideshow. Unfortunately, you have to watch someone else do the shooting.

WHO'D WANT TO LIVE THERE?

In the '70s, the Residents were a rock 'n' roll band. In the '80s they became 'performance artists'. In the '90s they've turned to writing offbeat multimedia like *Freak Show* and *Gingerbread Man* (reviewed in MACFORMAT 16 and 21 respectively).

In *Bad Day* the word 'strange' has found its true vocation. You are a visitor to the midway, 'a carnival on the sorry side of town' where there may (or may not) have been a murder. You have to wander around in a point-and-click kind of way, visiting the sideshows and listening to the characters you meet. Your objective (such as it is) is to survive your visit. You see, this is not just the sorry side of town but also the seamy side of life, and each of the characters has his or her own agenda... Or so the manual says. In practice, though we tried provoking every one of them, we didn't achieve so much as a dirty look from another character. The trick to the game seems to be not so much to stay alive as to stay awake.

A scene from one of the sideshows. Very arty but not much of a party. Sorry.

Ike's 'whole life is devoted to truth – the kind of dark unpleasant realities that are constantly suppressed by weak minds.' He runs one of the more 'interesting' side shows, The Top Ten Tortures.

There *is* a distinctive mood, as you can tell from the sideshows. First up there's the 'Kill a Commie' shooting range, then 'Dagmar the Dog Woman' and the all-time kiddies' favourite, 'Tortures Top Ten'. And who hasn't at some time enjoyed the Three-Headed Abominable Snowman Skeleton?

Although you can spot all of the ten sideshows from the time you first arrive at the fair, not all are immediately accessible. To get to them, you have to *become* some of the characters you meet, by clicking on them when the special 'eye' icon appears. The reception you get from other characters depends on who you are at the time, and the instructions advise you that it's unwise to keep one personality for too long. You start the game as Timmy, a young boy, but you'll have to be all sorts of people before the tedium really sets in. The cast list includes various social dysfunctionals whose thoughts you are forced to share as they flash up on screen. My favourite is the very nasty IRS man – Jim Ludtke, or perhaps the Residents, obviously had a big problem with the concept of organised society and differential taxation.

Bad Day has a '12' rating, so it's allowed to be a bit rude. The sideshows consist largely of surrealist animation and these might not be your political or artistic cup of tea, but they do remain firmly on the 'respectable' side of the taste and decency boundary. The problem is not the game's content, but more that it has no proper objective or gameplay. None of the sideshows turns out to be as interactive as you might hope – you can't even shoot commies for yourself. Also, because you change the character you play so often, there's no real chance to become immersed in the game as you might in a conventional role-player.

If you're a fan of American surrealism, *Bad Day* does offer an eclectic mix of animated tidbits on a gothic horror/morality play theme. However, if you crave an RPG adventure, or indeed any type of game, it's deeply flawed, offering a lack-lustre interface and a complete absence of gameplay. It just doesn't hang together as a movie, multimedia *or* a game. JAMES ASHTON

Most of *Bad Day's* gameplay consists of watching little movies and admiring quite how damn arty those programmers are. Dull, dull, *dull*...

BAD DAY ON THE MIDWAY

Price: £39.99. **Out:** now.
Requires: Quadra or better, 8Mb of free RAM, System 7.1 or later, 256-colour monitor, double-speed CD-ROM drive.
Contact: Inscape on 0171 391 4300.

GRAPHICS 51%
Some interesting ideas and effects, but ultimately uninspiring and frustratingly sluggish to update.

SOUND 59%
The sound effects aren't earth-shattering, but speech is delivered clearly, co-ordinated to lip-sync with the graphics.

GAMEPLAY 21%
With no overall game objective it's hard to become involved unless you really connect with the games' characters.

MACFORMAT RATING 29%

Free reader ads

This issue we've got more exciting bargains than a Sunday morning car boot sale, so buy all your Mac essentials here.

HARDWARE FOR SALE

■ **Performa 630 8/500 CD,** System 7.5.1, monitor and keyboard, six months old, six months guarantee left, all manuals, disks, *RAM Doubler* included – £1,100 ono. ☎ 0171 354 2297 (eves)

■ **PowerBook 540 12/240** (8Mb RAM added since purchase), excellent condition, two batteries – £900. St Albans, North London ☎ 01727 842726

■ **Promethus Pro modem** 144e fax modem – £100, or exchange for hand-held scanner and OCR software. Warwickshire ☎ 01926 831503

■ **Apple 14-inch Trinitron** monitor, little used – offers. Near Frome, Somerset ☎ 01373 830901 (eves)

■ **PowerMac 6100/80 24/250 CD,** 256K cache, still under guarantee – £750 ono. ☎ 01548 550266

■ **PowerBook 5300 8/500,** PC card, modem, five months old – £1,740; multiscan 14-inch monitor, three months old – £250. James ☎ 01753 842143

■ **Mac Plus, 2.5Mb RAM,** 40Mb external hard drive, external floppy drive, keyboard, mouse, in excellent condition – £250 ono; Mac SE/30 spares going cheap, will consider part or whole exchange for 120ns 1Mb RAM SIMMs @ £10 each (4 required). ☎ 01480 406415 (eves)

■ **Performa 600CD 8/80,** monitor, keyboard, mouse, extras; Hewlett Packard DeskWriter 520; PowerBook 140 4/40 – offers please, will sell separately. ☎ 01704 563353

■ **Performa 5200 8/800** CD/TV, 15-inch monitor (SVGA), 21 titles, only two months old, boxed, bought £1,700 – sell £1,500 ono. Jaz ☎ 0121 4406160 (after 5pm)

■ **Performa 600CD 8/80,** 13-inch monitor, System 7.1, *RAM Doubler, ClarisWorks*, VGC – £400 ono. Iain ☎ 01865 377294

■ **Mac Plus** with hard disk, moderate condition – offers; Macintosh laser printer IInt PostScript, was £1,800 – offers. Matthew ☎ 01432 263595

■ **StyleWriter 1200,** eight months old, light use only, as new, boxed, new ink cartridge – £75. Martin ☎ 01562 743655 or mobile 0421 522392

■ **Mac IIcx 8/230,** keyboard, mouse – £350; Apple 15-inch multiscan monitor – £250; double-speed external CD-ROM – £100; 2,400bps fax modem – £20; System 7.1 disks – £20. ☎ 01689 811142

■ **IIci 32/540,** Daystar Turbo 040 40MHz, 20-inch, 8-bit colour monitor and card (also 14-inch), Ethernet AH, laser, scanner, CD drive, 44Mb SyQuest, will split – £2,350. ☎ 01932 873328

■ **Colour Classic 8/40,** plus StyleWriter bubblejet, boxed, with manuals, excellent condition, personal use only – £650 ono. ☎ 0181 346 3890

■ **Scanmaker II,** 24-bit colour scanner, as new, inc *Photoshop LE*, unregistered – £110. ☎ 01902 656705

■ **TrueVision 4Mb** + *DiaQuest Animaq* desktop, complete record/play, frame accurate, full res PAL with/without compression. ☎ 01342 833004 (eves)

■ **Logitech Scanman** handheld scanner, b&w, with *CatchWord Pro* OCR software, boxed, as new – £220; Apple CD 300+e external CD-ROM drive, SCSI cable, terminator, set-up software, boxed, as new – £120. ☎ 0171 792 0374

■ **Apple LCIII 4/80,** 14-inch colour monitor, keyboard, mouse, StyleWriter printer, software, manuals, nearly new – £550 ono. Judith ☎ 0117 971 7508

■ **LaserWriter IInt,** very low print count (genuine), all cables supplied – £300 ono; 4 x 1Mb RAM for same or Mac – £50. ☎ 01827 717521 (eves)

■ **Performa 400,** 8Mb RAM, boxed, manuals, Power CD, StyleWriter II, selection of software/games; 14-inch colour monitor – £600 ono. ☎ 01302 771072 (eves)

■ **16Mb 72-pin SIMMs,** originally from Quadra 840AV – £200 ono. Arthur ☎ 01705 475820

■ **Philips CDD522 CD recorder,** *Toast* software and cables, one year old, readily upgradable, part of manual lost – £900 ono. Trevor ☎ 01703 231196 (9am-6pm)

■ **8Mb 72-pin SIMMs,** light use – £100 each; 21-inch Hitachi greyscale monitor, perfect working order – £300 ono. ☎ 0181 856 3929

■ **PowerBook 160 8/80,** excellent condition, case, manuals and leads included – £600 ono. Ollie ☎ 01222 224870

■ **PowerMac 6200/75 8/500,** quad-speed CD-ROM 600i, keyboard, mouse, loads of CDs, never been used, still in box and unregistered – offers around £850. ☎ 0141 427 7318

■ **US Robotics Mac & Fax,** 14,400 bps, as new – £120 or exchange for 2 x 4Mb, 30-pin SIMMs. ☎ 01923 228755

■ **LC475 8/250,** excellent condition, with boxes and manuals, also Hewlett Packard DeskWriter 520 – offers. ☎ 0585 187114

■ **Mac IIfx 20/150,** external CD, 13-inch colour monitor, System 7.5, extended keyboard, cables, Radius Card, 14,400bps modem, Phaser SX thermal colour printer – £1,500 ono. Mike, Edinburgh ☎ 0131 226 5917

■ **Centris 610 4/80 CPU** – £350; HP Deskjet 320 printer, colour capability – £130; fax modem, 14,400bps, nearly new – £70; with manuals. Andrew ☎ 0181 981 1230

■ **SE30,** 21-inch Radius monitor, interface card, keyboard, mouse, ImageWriter II printer, SyQuest removable cartridge external drive, five cartridges – £425. ☎ 01233 845577 or 0181 849 3602 (work)

■ **Mac IIsi 5/80,** CPU only – £325. ☎ 01359 251636

■ **4Mb 72-pin SIMM** – £40. John ☎ 0181 360 3955

■ **Quad-speed CD-ROM** and US Robotics 14,400bps fax modem, new, with all software and leads, bargain

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MACFORMAT is not a forum for selling pirate software. If you are selling software, you must include a signed statement that you are selling the original issue disks and including all original manuals and documentation, and that you have not retained any copies of the software.

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Send your form to: MACFORMAT reader ads, 30 Monmouth Street, Bath BA1 2BW.

UK USER GROUPS

The User Group Council provides a list of all the user groups registered with them. If you wish to contact the Council, ask for John McKnight ☎ 0181 314 5555.

Local user groups:

- Aston University Mac UG, Birmingham area, contact Ray Tier ☎ 0121 359 3611
- Berkshire Mac UG, Ian Burn ☎ 01734 813669
- Blackburn Mac UG, Roger Moreton ☎ 01254 670043
- Bristol (BAUD), Malcolm Ingsley ☎ 01454 616846
- Cambridge Apple UG, Ian Archibald ☎ 01223 311157
- Cancer Research/RMH UG, Raymond Henry ☎ 0181 643 8901 ext 4636
- Gateway UG, Norfolk area, Verne Anderson ☎ 01638 513000
- Glasgow Mac UG, Stephen Broadfoot ☎ 0141 339 6646
- Herts/Beds Apple UG, Norah Arnold ☎ 01582 573918
- Liverpool Apple UG, Irene Flaxman ☎ 0151 928 4142 or 0151 949 0307
- London Mac UG, John McKnight ☎ 0181 314 5555
- Mac Assist, Cardiff and district, Nigel Arrighi ☎ 01222 224682
- Midapple, West Midlands, William Watson ☎ 01384 277921
- Midland Mac UG, Worcestershire, Ivan Knezovich ☎ 01299 402631
- North West Apple C C, George Evans ☎ 01270 583714
- Nottingham Mac UG, David Nicholson-Cole ☎ 0115 945 5077 or 0115 945 5444
- Poole Mac UG, Bob Lister ☎ 01202 684441
- S E Essex Mac UG, Michael Foy ☎ 01702 468062
- Southampton Mac UG, Clive Marklow ☎ 01703 293453
- Southern Mac UG, Salisbury area, Roger Ford ☎ 01722 780102
- Southwest Mac UG, John Elver ☎ 01272 693119
- Staffordshire Poly Mac UG, Mark Stiles ☎ 01785 52331
- Sussex UG, Hastings & E Sussex, Garry Nevin ☎ 01424 714110
- West Midlands UG, Danny Torbica ☎ 01902 336172
- Yorks & Humberside Mac UG, David Vardy ☎ 01423 358853

Thematic User Groups:

- BAPC (Printers), Derek House ☎ 01228 513621
- Christian Mac UG, Paul Wareing ☎ 01789 490153
- Corel Draw UG, Jill Foster ☎ 01509 415101 or 01509 620442
- Developers UG, John French ☎ 01895 672654
- HebreWare, Mendy Scharf ☎ 0181 802 6143
- Helix UG, John Sandell ☎ 01763 273379
- Independent School UG, Ian Carter ☎ 01252 512151
- LAW Mac UG, Charles Christian ☎ 01379 88518
- Lisa Users Group UK, Sheila Bell ☎ 01367 710453
- MacBaud ☎ 01685 58027
- MacLaw, Nicholas McFarlane-Watt ☎ 01865 784777
- Medical UG, Keith Davey ☎ 01836 348284
- Microsoft UG, ☎ 01252 834995 – ask for Enquiries
- Multimedia UG, Richard Hurley ☎ 01273 834588
- Newton MessagePad West Yorks User Group, David ☎ 0113 278 0691
- PageMaker UG, David Foster ☎ 01509 415101
- QUAD Club (QuarkXPress), Philip Caplan ☎ 0181 523 4233
- School Mac, Gloucestershire, Bill Henley ☎ 01453 825422
- School Mac UG, Cambridge, Derek Smith ☎ 01945 584146
- Special Needs UG (SNUG), Geoff Hughes ☎ 01744 24608
- Strata UG, Roger Harris ☎ 01227 369689
- The British IIGS UG, Peter Stark ☎ 01223 838231
- Young Mac ☎ 01795 535472

for quick sale – £120 each or £240 both (RRP £400+). ☎ 01483 572401

■ **Quadra 840AV 8/1000 CD,** 13-inch Apple RGB monitor, keyboard, mouse, microphone – £1,250 ono for quick sale. Gareth ☎ 01203 679935 (eves)

■ **LCII 6/40,** System 7, 14-inch colour monitor, StyleWriter, *ClarisWorks 3* – £350 the lot. ☎ 0181 332 6847

■ **Classic II 6/40,** keyboard, System 7, various shareware, carrycase and more – £200 ono. ☎ 0121 373 2066

■ **LCII 10/80,** FPU, 14-inch monitor, keyboard, mouse (new shape), System 7.1 – £550 ono. ☎ 01902 887017

■ **Wacom ArtPad** – £100; Newton Message Pad 100, upgraded to 110, with 2Mb card, Connection Kit 2.0, MAWS adaptor, all boxed – £225. ☎ 0181 518 3092

■ **Performa 630 8/500,** 15-inch multiscan monitor, keyboard, mouse, software (including games), boxed, manuals, only nine months old – £850 ono. Fife ☎ 01592 200699

■ **Macintosh IIvi 8/40,** System 7.5.1, disks, manuals, monitor, keyboard, mouse, LaserWriter printer, magazines, disks and more – £550. Andy ☎ 01372 729487 (after 7pm)

■ Full **040 processor** with FPU, will fit LC475 or Centris 610, four months old – £100. Can fit if travel paid. ☎ 01747 851831

■ **Performa 475 4/250,** monitor, keyboard, mouse, good condition, plenty of games, *ClarisWorks* – £500 ono. Dave, Sheffield area ☎ 01709 702436

■ 4Mb **72-pin SIMMs** – £80. John ☎ 01323 412787

■ **Performa LC475 4/80,** monitor, keyboard, mouse, additional 8Mb RAM, Apple CD, *Grolier* and other CDs, preloaded software, all manuals, original packaging, upgrading. Steve ☎ 01360 620394

■ **PowerBook 5300 8/500,** 100MHz, hardly used – £1,400 ono. ☎ 0181 968 4074 (eves)

■ **Classic II 10/40,** mouse, keyboard, manuals, System 7.1, ex condition – £375. ☎ 0181 518 3092

■ **LCIII 12/540,** ext CD. 14-inch SVGA, loads of games, extra software, home use – £750; HP560c, 14 months old, spare ink cartridges – £225. ☎ 01384 483682 (work)

■ **Supermac Thunder/24 NuBus card** with image processing accelerator, excellent condition – £600 ono. Barry ☎ 01604 585853

■ **Performa 450 4/160,** 14-inch colour monitor, Apple CD-ROM, StyleWriter, two years warranty, System 7.5, loads of software, light home use – £700 ono. Bruce ☎ 01422 882387 (eves)

■ **US Robotics Mac and Fax** Sportster, 14,400bps modem, hardly used, with cables, manuals and software – £100. ☎ 0121 604 2017

■ **Performa 630 8/500 CD,** TV/vid in, 15-inch monitor, keyboard, mouse, HP600 colour printer, various software, as new, five months warranty, boxed, manuals, genuine sale – £1,350. ☎ 01752 551969

■ **Performa 630 8/350 CD,** TV/vid in, System 7.5, Sportster 14,400 bps modem, all cables and manuals – £750. Tony ☎ 0171 261 9079 (eves) or e-mail **101646.1075@compuserve.com**

■ Apple **Colour StyleWriter Pro,** CMYK A4 printer, all leads and software, boxed, one year's light home use, £450 new – only £200. Alec ☎ 0117 9442337

■ Apple **40Mb hard disk** – £40; 2 x 16Mb 72-pin SIMMs (up to PPC 6200) – £165 each; 2 x 8Mb 72-pin SIMM (up to PPC 6200) – £105 each. Ben ☎ 01274 403858 (eves)

■ **Macintosh 660AV** 12/500 CD, *Photoshop 3.0, Director 4.0, Premiere 4.0, Painter 3.0, Bryce 1.0, Strata Studio Pro, Ray Dream Designer,* all on disk and others – £1,150 for the CPU. Ian ☎ 01132 469254

■ **LCIII 4/160,** 14-inch colour monitor, keyboard, mouse and double-speed CD-ROM drive, System 7.1, disks and manuals, home use – £750. ☎ 0181 367 2511

■ **LC 10/40** with mouse, keyboard, monitor, several games, business titles, mint – £450. Jason, Wolverhampton ☎ 01902 685656

■ **Sharp JX-32F3,** transparency unit for Sharp scanner, boxed, unused – offers. Mike ☎ 0171 792 3732

■ **Power PC 6100/60** 8Mb RAM, 15-inch monitor, CD-ROM, keyboard, mouse, System 7.5.1, *Microsoft Office,* HP colour printer, ten black ink cartridges, lots of software, *SoftWindows* (run Windows 3.11 and DOS 6.22) – £1,600 ono. ☎ 01734 263865 or 0956 636331

■ **Mac IIcx 8/230,** 8-bit card, keyboard and mouse – £350; double-speed, tray loading, external CD-ROM drive – £90, with SCSI cable; System 7.1 disks – £20. ☎ 01689 811142

■ **Performa 600 CD 8/1Gb,** 14-inch colour monitor, keyboard, mouse, manuals included, plus *Myst* and *Theme Park* CDs – £500. Peter, Wiltshire ☎ 01793 523739 (after 6pm)

■ **Mac II 5/100,** Sigma ColourMax Video Card, software, keyboard, mouse – £195. Richard ☎ 01695 726067

■ **Performa 400,** excellent condition, 14-inch Sony Trinitron monitor, StyleWriter II printer, original software, boxes, keyboard, mouse many extras, upgrading, hence sale – £700 ono. ☎ 01444 892162

■ **PowerBook 520 12/160,** internal 14,400bps fax modem, System 7.5, Targus case, good condition – £795; Performa 630 8/500, internal CD-ROM, System 7.5, *Claris,* SVGA colour monitor, manuals, boxed, as new – £695. Bath ☎ 01225 316726

■ Logitech 32 **hand-held greyscale scanner** for Mac Plus or better, System 7 compatible, boxed, light home use, complete – £95. ☎ 01476 572134

■ Dead **Apple Design Keyboard** for sale – £37 ono. Iain ☎ 01599 544 255

■ **Nikon Coolscan LS-10E** film scanner, manuals, leads – £735 ono; 8Mb SIMMs from 520c. Martyn ☎ 01344 483039 or 0860 828417

■ **LC 10/40** with monitor, keyboard, StyleWriter and Typist hand scanner, fine condition – £600 the lot, buyer collects. Steve, Wolverhampton ☎ 01902 652759

■ **Mac SE,** external 100Mb hard drive, Imagewriter printer with scanner, carry cases, *ClarisWorks* – £350 package. ☎ 01494 527736

■ **PowerBook Duo 230 8/80,** System 7.5, fully boxed, as new – £495. Philip, Coventry ☎ 01203 662232

SOFTWARE FOR SALE

■ ***Animation master*** 3D modelling and animation program, together with *LetterBlox 3D type,* manuals and dongle – £300. ☎ 01734 623258 (after 6pm)

■ ***Ray Dream Designer 3.0,*** unopened. 3D modelling program – £70 ono. Jamie ☎ 0181 482 0654

■ ***Macromedia Extreme 3D,*** unwanted prize, unopened – £250. 2 x 1Mb 30-pin SIMMs – £35. ☎ 0171 278 3816 (pms except Wednesdays)

■ ***ClarisWorks 3,*** as new – £30. *Quick Figure Pro v2.1* – £20. Tony ☎ 0117 907 9362

■ ***Myst E20 Daedalus Encounter*** – £25; *Kings Quest VII* – £20; *Indy Fate of Atlantis* – £15; *Best of MicroProse* (4 in 1) – £15, all CD, boxed. Gary ☎ 0181 672 2297

■ ***ClarisWorks 2.0,*** unwanted prize – £10; Altai game paddles (for Apple II) – £5. Simon ☎ 01733 573813

■ ***Spigot power AV,*** full screen, full motion video, from your Mac *Adobe Premiere.* Kostas or Joy ☎ 0181 876 1614 (after 6pm)

■ ***Wing Commander 3*** – £25; *Doom 2, Angel Devoid, Monty Python, WarCraft, Blind Date, Dark Forces, Castles* – £20 each. Max ☎ 0973 818060

■ ***Ray Dream Designer 3.1.2,*** *KPT Bryce 1.0,* disks and CD-ROM, all manuals – £100. Peter ☎ 01424 429686 (after 6pm)

■ ***Kai's Power Tools 2.1*** – £80; *Bryce 1.0* – £80; *Convolver 1.0* – £80; *Streamline 3.0* – £75; *PGA Golf* – £8. All boxed. ☎ 0181 518 3092

■ ***PageMaker 5.0*** – £165; *Now Utilities 5.0* – £30. Essex ☎ 01245 466097

■ ***Now Utilities 6.0*** on CD-ROM, unused, includes documentation – £30. J Reiners ☎ 01223 506792 or e-mail **jor20@cam.ac.uk**

■ ***Rise of the Dragon,*** *Kings Quest V* and *Red Baron* box set – £25; *Civilization* – £10; *Syndicate* – £10. Guy ☎ 01334 463729

■ ***Adobe Illustrator 5.5,*** deluxe edition, PowerPC native, boxed, as new – £225 or swap for a similar application. All offers welcomed. ☎ 01484 544633

■ ***Myst,*** *Inbred with Rednex, Disney Magic* set, *Daedalus* 3 disk set, *The Way Things Work, Making Music, Rock-Rap 'n' Roll* – all £20 ono. ☎ 01524 35262

■ Bitstream fonts library CD-ROM, 1085 fully unlocked typefaces, costs £895 new – offers. Giles, Somerset ☎ 01934 712595

USER GROUPS

Need hands-on help with a Mac problem? Want to swap shareware or freeware, or just meet other Macintosh enthusiasts? Then why not try and find a user group near you.

■ Hampton Court Users Group. Informal group which meets approximately every six weeks to exchange ideas and help each other. ☎ 0181 399 9416 or 0181 940 0673 (MF42)

■ Artists archive and news service. Contact The Research Station ☎ 0181 778 6547 (24hrs) 38,400bps plus Web site at **http.www.metamute.co.uk/r_station** (MF43)

■ Join Mac User Oxford – the largest shareware library in the country. Regular catalogue, technical support, free advertising. SSAE: 30 Sandfield Road, Headington, Oxford, OX3 7RJ. (MF 47)

■ MacLin, E-lans MUG. Meetings every other Tuesday, bimonthly newspaper, for information call +46 (0) 141 220330 or e-mail **omar@motala.mail.telia.com** (MF47)

■ MacHelp. Non-profit helpbank for all your Mac problems. Write to us at: MacHelp – Hermelynster 10, B2610, Wilryk, Belgium, for advice and shareware. (MF47)

Groups are listed here for six issues. The code at the end of the entry is the last issue in which it will appear. Renew your entry by sending in the coupon on page 129. If your group isn't already listed here, send us your details and we'll do the rest. This is a free service for amateur, non-profit-making Mac user groups. MACFORMAT does not endorse or recommend any group and cannot be held responsible for any problems you might suffer as a result of contacting any of the groups advertised here.

If you run a bulletin board, we want to hear from you. We're setting up a separate free listing for Mac-related BBSs on these pages, so fill in the form on page 129 and post it to the usual Reader Ads address.

WANTED

■ **SE30** or LCIII/475. Will pay £250-£300 for good condition SE30. Gareth ☎ 01734 561260 (days)

■ ***SoftWindows 2.0*** ☎ 0171 609 7764 or e-mail **pswann@worldscope.net**

■ ***Powerpoint 3.0*** or later ☎ 0181 681 6865

■ **Performa TV Tuner Card X-OR/** *Unisyn* software, Newton 110/120 holster charger, fax/modem, PSU, RAM. For sale: Newton 100 battery – £5 ☎ 0181 692 8129

■ **PowerMac,** Colour Snapshot or flatbed scanner and printer. Also monitor, keyboard, mouse, CD-ROM, any models considered. Angela, London ☎ 0181 558 8872

■ Cheap **PowerBook** for use with special needs children in school. ☎ 01425 618679

■ ***RetrieveIt!*** software. Good price paid. ☎ 01908 243608 (office hours)

■ **21-inch grey scale** screen; SyQuest 44Mb external drive and a black and white flatbed scanner. Robert ☎ 0181 451 2090 (eves)

■ Reasonably priced **Apple mono monitor** for Mac IIcx. 12- or 14-inch, it doesn't matter as long as it works! ☎ 0113 236 2669

■ **LC475** or LC630. ☎ 01922 726074

■ ***Freedom of the Press.*** ☎ 0171 278 3816 (pm except Weds)

■ ***Stuffit Deluxe 3+*** – under £20; 8mb 72-pin SIMMs under £50. ☎ 01592 721681 (after 6pm)

SWAP SHOP

■ ***MacDraw Pro*** – new, unregistered, boxed, monitor 12-inch RGB and four games – unopened, swap for 15-monitor or scanner or sell. Albert ☎ 0118 945 5295

■ ***Top Ten Mac Pak*** (CD) including *Syndicate, Theme Park, Populous 2, Power Monger* – open to offers especially *SimCity 2000*. Tom, Essex ☎ 01440 730 422

■ ***Marathon 2 Durandal*** (CD) – swap for *A10 Attack* or *X-Wing* (CD). Bob, Cambs ☎ 01223 574330 (before 9pm)

■ Swap **MegaDrive** with cables, two pads, *Alien 3* and *JungleStrike* for *Doom 2* or *DarkForces*. Brett ☎ 01284 704336 (after 4pm)

■ **Programming starter kit** for Mac book, 830 pages, serious, comprehensive, includes programming CD, VGC, cost £45 – sell £20 or swap for good game. Jack ☎ 01285 720307

■ *Myst, Monkey Island, Goblins 3, Lemmings, Indiana's Crusade*. All as new, boxed with manuals. Swap for similar games or offers. Pete ☎ 01736 788547

■ *Adobe Photoshop 3*, native, full version, sealed, unregistered in exchange for 100 Mac mags and disks MACFORMAT, The Mac, MacUser, MacWorld, plus assorted AppleWorld and .net thrown in. ☎ 0171 720 4352

BOOKS AND MAGAZINES

■ MACFORMAT 1-38 except 19, all floppies and CD-ROMs including magazine binders – offers. Fred ☎ 0191 522 0049 (after 6pm)

■ The Mac, first 30 issues with CDs (from June '95) No disks – £60. David, Cumbria ☎ 01946 822015

■ *Adobe Classroom in a Book, PageMaker, Illustrator, Photoshop* – £20 each. *Using Excel 5, Using Word 6* – £15 each. Steve ☎ 01869 338013 after 6pm

HELP WANTED

■ In *Spirit of Excaliber* episode 4, I can't make the potion to release Merlin. I have all the ingredients – do you know how? Anthony ☎ 01992 461472 MF

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Hot 20

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Buying advice

Whether you're buying by mail or in person, here are a few basic, sensible precautions to bear in mind. Note that everything here applies to buying from a business; most of it does *not* apply to buying from a private seller in MACFORMAT's reader ads pages.

Always be absolutely clear about what is included in the price – postage and packing? Any necessary cables, etc? VAT? By law, an advert must say *explicitly* if VAT is not included; if it doesn't, VAT *is* included. But this could be in the small print – so make sure you read it all! If you're buying in person, check that everything is there and that it all works properly before you leave the shop. If you're buying by mail, ring the supplier first to confirm the price and availability, and ask what your options will be if there should be any problem. Find out when you can realistically expect delivery. Always keep all the receipts and make records of all correspondence, whether it's by mail or by phone.

How to protect yourself

If you are buying goods of more than £100 in total value, use a credit card if possible. That way, if anything goes wrong, you'll be legally entitled to claim against the credit card company as well as the seller, even if the seller's gone bust. You might also get extra insurance – ask your credit card company.

If you don't have a credit card, pay by cheque or postal order (ask at your local post office). Never send cash through the mail – it can't be traced if it gets lost, you can't stop payment, and even if you have proof of posting, you can't prove how much you sent.

Keep records. If you're paying by credit card, keep a note of the exact time of the order and ask for an order number. If you're paying by cheque, make sure you fill in the details of the date, amount and payee's exact name on the stub – and keep it!

When a mail order arrives

Check everything carefully. If anything is missing, contact the supplier immediately. If something doesn't work, make all the obvious checks (the fuse, etc), but don't try to repair it. If there's anything you're not happy with, don't use it – if you do, you could be deemed to have accepted it.

If there's a problem

Whether you bought it by mail or in a shop, the law says a product must be:

1. 'of merchantable quality' (that is, broadly speaking, it must actually work);
2. 'as described' (in the advert or in person – and this criterion also applies when you're buying from a private seller); and
3. fit for the purpose for which it was sold or for the purpose you specified when you ordered it.

If it fails to meet any or all of these three criteria, then you are entitled to return the goods for a refund, receive compensation for all or part of the value, or get a replacement or free repair, depending on the seriousness of the defect. These are the 'statutory rights' that adverts always say are 'not affected' by any extra guarantees. The supplier cannot change or deny these rights.

How to complain

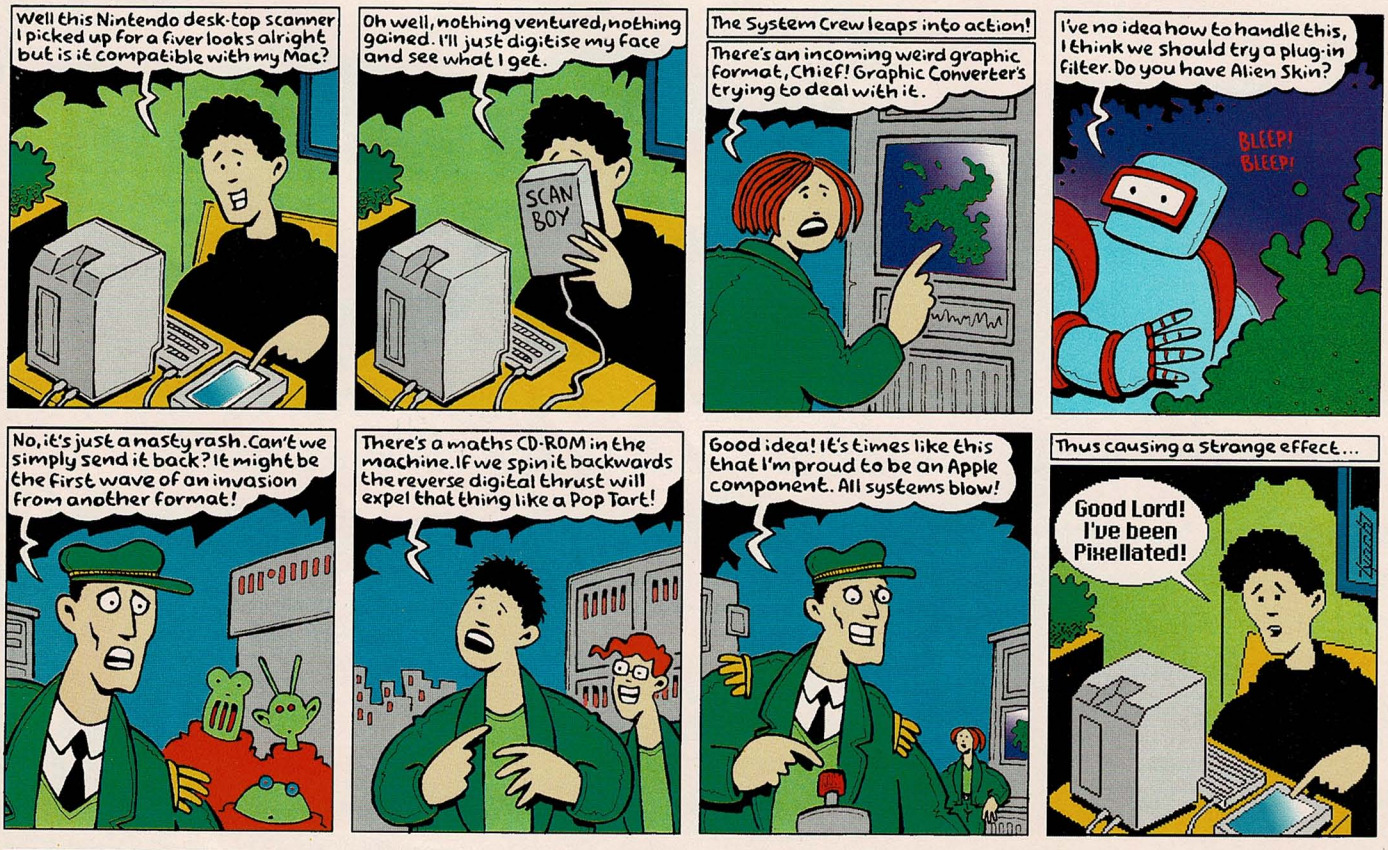
If you're not happy about something, always contact the supplier first and politely explain your problem. Most problems are sorted out at this stage with no fuss. But if yours isn't, put your complaint in writing, clearly stating your problem and including any relevant dates, etc, and send it to the manager or owner – ask for the correct name and job title. Give the supplier a reasonable time to reply – say, ten days or so.

If the problem is still not resolved, you may need to take some sort of legal action to enforce your rights. This need not cost you a lot of money. You should seek advice from a solicitor (ask about the free advice scheme) or from one of the following organisations (check in your local telephone directory):

- Citizen's Advice Bureau;
- Trading Standards Office (listed under your local council);
- Office of Fair Trading; or
- County Court (ask someone there about the 'small claims procedure').

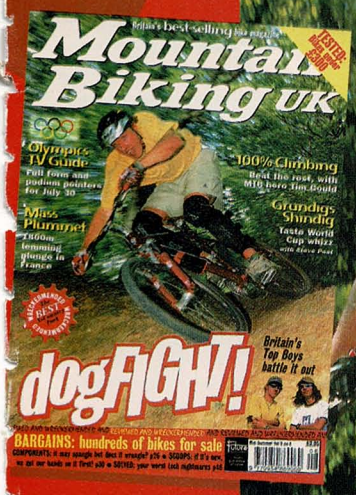
The Classic System Crew

By Bob Lynch


Well this Nintendo desk-top scanner I picked up for a fiver looks alright but is it compatible with my Mac?
Oh well, nothing ventured, nothing gained. I'll just digitise my face and see what I get.
SCAN BOY
The System Crew leaps into action!
There's an incoming weird graphic format, Chief! Graphic Converter's trying to deal with it.
I've no idea how to handle this, I think we should try a plug-in filter. Do you have Alien Skin?
BLEEP! BLEEP!
No, it's just a nasty rash. Can't we simply send it back? It might be the first wave of an invasion from another format!
There's a maths CD-ROM in the machine. If we spin it backwards the reverse digital thrust will expel that thing like a Pop Tart!
Good idea! It's times like this that I'm proud to be an Apple component. All systems blow!
Thus causing a strange effect...
Good Lord! I've been Pixellated!

DON'T lay the table like this...

...lay it like this...



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Carbon bikes from Giant and Trek put through their paces

Olympics here we come!

Mountain biking's about to have some Olympic medallists – we give you a preview of the course, the British hopefuls, and which international riders to look out for...

Plus:

3 routes in the Quantocks; Olympic reserve Barrie Clarke's advice on riding in the wet and dirt; go behind the image of Anne-Caroline Chausson; find out what's on in August near you; news; technical advice; new products tested; secondhand bikes and bits for sale; and loads of mountain bike action!

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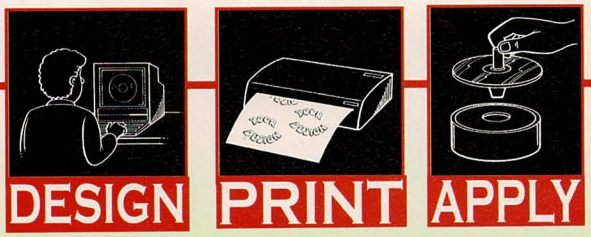

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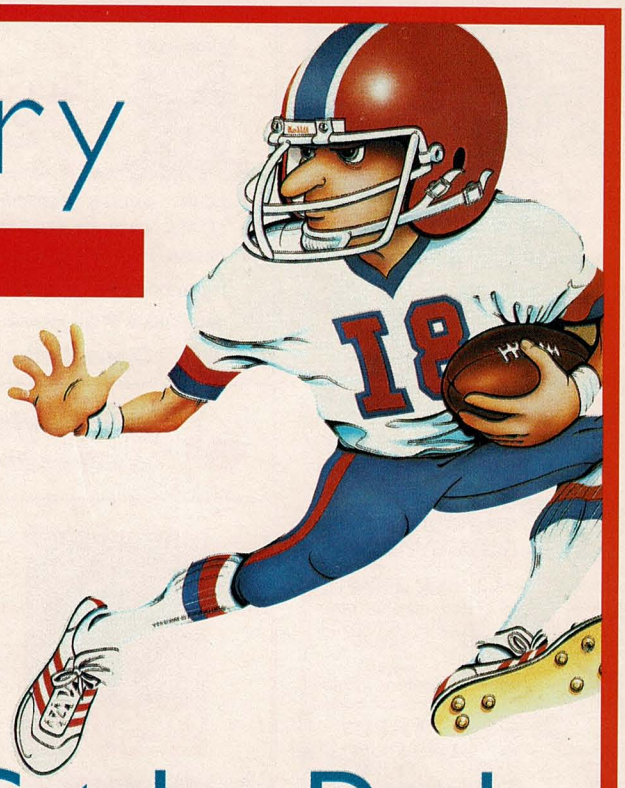

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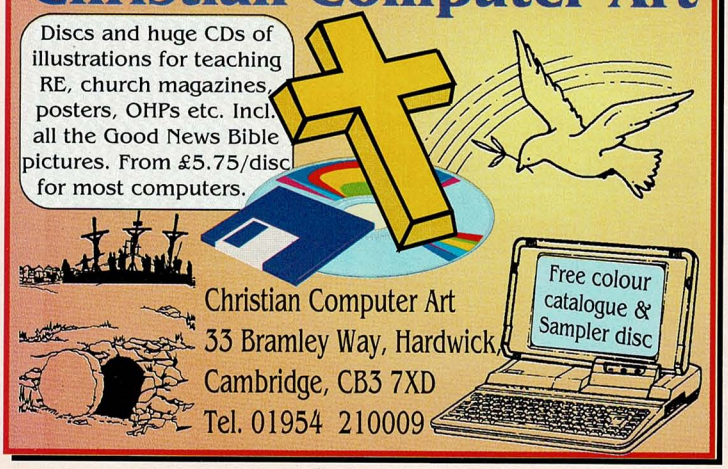

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Ideas above its station – the Tiny Zone!

Hello and welcome again to Tiny Zone, the section of MACFORMAT with the big picture. Over the years, Apple has been criticised for having its head in the clouds and being too concerned with technical gee-whizzery or new ideas whether or not they have practical (or profitable) application. Now Marco Landi, Apple's new Chief Operating Officer, has said this is going to change, and the sole test of success will be profit. No surprise, really, considering Apple's recent financial woes. And yet, one of Apple's greatest strengths has been its constant innovation, its apparently unlimited capacity to come up with brilliant new technologies. Some have set the pace for the whole field of computing, while some have inexplicably failed to ignite the world – infra-red networking, PowerTalk, Publish-and-Subscribe... everyone has a favourite. The hard lesson, ultimately, is that being brilliant is no guarantee of success. Just look at Philips. Dixons has just decided to stop selling CD-i, Philips's 'revolutionary' all-in-one replacement for the CD player, video recorder and games machine. Philips invented the cassette tape and the compact disc, yet CD-i has gone the way of the laser disc, the V2000 video recorder and the digital tape deck – all commercial flops, and all Philips products too. CD-i was too expensive, with too few titles available (an object lesson there for Apple's Pippin, perhaps?). Yet despite its failures, Philips is still a giant, and Philips and its partners may still make their digital video disc (DVD) as universal a standard as Philips's CD format. Philips knows it must keep innovating, not rest on its laurels *or* buckle under its failures. Yesterday's technology won't bring tomorrow's profits. Let's hope Apple realises that too.

In the October issue of MACFORMAT

Mac buying guide
Apple must boost its profits to survive, so its Macs are unlikely to get any cheaper. At the same time, Mac clones are arriving in force. All this means there's never been a better time to buy a new Mac. Next issue, we test every current Mac from Apple – including some new models not even announced yet! – and every Mac clone available in the UK.

CorelDraw hits the Mac
The leading PC art package finally arrives on the Mac, but will it tempt anyone away from *Illustrator* or *FreeHand?* We put the finished release version of the program to the test.

Which e-mail package?
With the growth of the Internet, e-mail is exciting again... but which software is best? We test the new *Claris Emailer, QuickMail 3.5* and other leading packages head-to-head

PLUS *KPT Final Effects* – add dazzling effects to your *Premiere* videos ■ Discover the hidden power in *ClarisWorks* ■ Visit Apple's Classroom of Tomorrow ■ More tips on handling alien graphic formats ■ *IndyCar Racing* and more!

NEXT ISSUE

ARE YOU A WINNER?

In MACFORMAT 36, we gave you the chance to win a Master CD Plus CD-ROM recording bundle from MicroNet. And the lucky winner is R Foster-Westgarth of RAF Stanmore Park in Middlesex. (We eagerly await the release of the RAF's range of multimedia titles...)

In MACFORMAT 37, Mygate Computing offered one lucky winner his choice of upgrade products to the value of £587.50. That lucky winner is Alan Grant of West Croydon.

In the MACGAMER supplement in that issue, we also had four fabulous packs of top games *(Marathon 2, Burn: Cycle, You Don't Know Jack, International Tennis Open* and *Frankenstein)* to be won, courtesy of Apple and Softline Distribution. The winners are Ian Hunt of Cambridge; Mrs Y Connor of Lochgilphead, Argyll; Lynette Jordan of Glasgow; and Aneitchik Nikolai of Leyton E11. Congratulations to all!

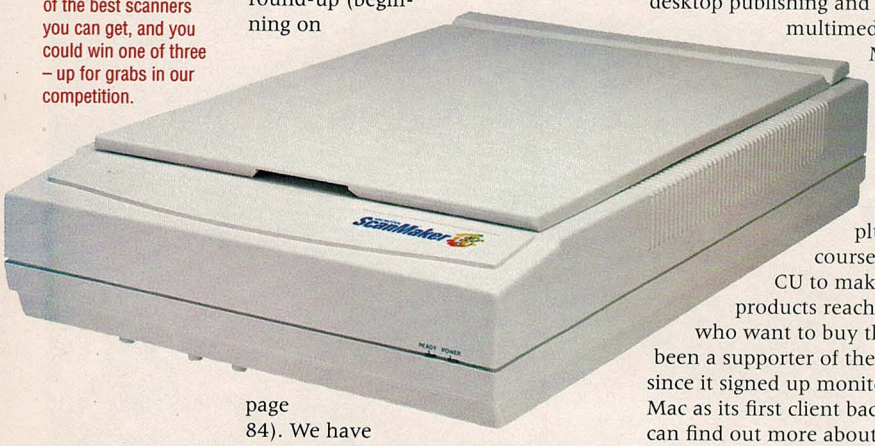
MACFORMAT 42 goes on sale on Thursday 29 August
Available with high density floppy disk or CD-ROM. Ask your newsagent to save you a copy or see page 75 for our special subscription offers

Win a brilliant colour scanner from Microtek

We have no less than three superb Microtek full-colour scanners, worth a total of £984, to be won, courtesy of top Mac distributor Computers Unlimited.

For anyone planning a good Mac set-up, a colour scanner is becoming a must-have item. It's the perfect complement to your Mac and colour printer, enabling you to convert printed text and images into an electronic form that you can adjust, subtly or radically, through your Mac before printing out the result. With a scanner, you have an instant graphics studio with all sorts of uses for business or home, and now's your chance to win that vital addition to your Mac.

The Microtek E3 scanner scores an impressive 86% in this issue's scanner round-up (beginning on page 84). We have three machines worth £328 each to be won, courtesy of Computers Unlimited, a leading distributor for Mac products in the UK.



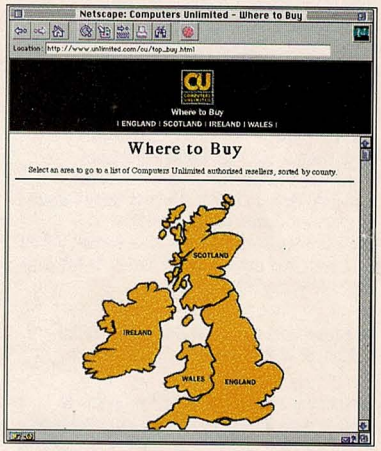
The Microtek E3 is one of the best scanners you can get, and you could win one of three – up for grabs in our competition.

The Microtek E3 is capable of scanning full-colour documents up to A4 – the size of this magazine – and is able to scan at 300 x 600 dots per inch. It also includes loads of software to make scanning easy. *Color It!* is a full image manipulation program that enables you to add subtle effects to your scanned images – or use them as a starting point for wild special effects (see our cover feature on page 38 for some ideas). *ScanWizard* is a plug-in that works with *Color It!* to enable you to scan straight into the program, giving you resolution adjustments and colour correction facilities. You can also use *ScanWizard* with industry-standard image editor *Photoshop* or the *MicroScan* utility, included with the E3 for convenient quick scans.

Microtek has been making desktop scanners since 1983, when to most people 'scanning' meant huge machines that only large firms could afford. It has led the way in making the technology more accessible, claiming the world's first greyscale desktop scanner (one capable of seeing graduated tones) and the first affordable colour scanner among its achievements.

Computers Unlimited is one of the UK's most prominent computer equipment and software distributors, ensuring a smooth path between factory floor and dealer showroom. Based in north London, CU specialises in products for the professional graphics, desktop publishing and burgeoning multimedia markets. More than 50 firms, including Apple, Fractal Design, Macromedia, Wacom, Claris and Radius – plus Microtek of course – count on CU to make sure their products reach the people who want to buy them. CU has been a supporter of the Mac ever since it signed up monitor firm SuperMac as its first client back in 1985. You can find out more about Computers Unlimited, including a full product directory and list of its local dealer networks, at its World Wide Web site at **http://www.unlimited.com/**

To win one of these fantastic scanners, all you have to do is answer the three simple questions below and send your entry on a postcard or the back of a sealed envelope. The closing date for the competition is Friday 6 September. Don't forget to include your name and address on the postcard!


Netscape: Computers Unlimited - Where to Buy
Location: http://www.unlimited.com/cu/top_buy.html
CU
Where to Buy
| ENGLAND | SCOTLAND | IRELAND | WALES |
Where to Buy
Select an area to go to a list of Computers Unlimited authorised resellers, sorted by county.
SCOTLAND
IRELAND
WALES
ENGLAND

Computers Unlimited's Web site includes a full list of its dealers throughout the United Kingdom.

The rules

Employees of Microtek, Computers Unlimited, Future Publishing and associated companies, and their families, are not eligible to enter. Multiple entries are not allowed unless posted on a working transparency unit. The editor's decision is final, no correspondence will be entered into, and there is no cash alternative. Please state if you don't want your name added to a mailing list. **MF**

This bike used to be a moped until we scanned it into our Mac with a Microtek scanner.

THE QUESTIONS

1. Which of these useful features is *not* offered with Microtek's *ScanWizard* plug-in?
(a) Resolution adjustment
(b) Colour correction
(c) Making the tea

2. Which of these achievements has Microtek been noted for in its 13-year history?
(a) The world's longest conga
(b) The world's biggest conker
(c) The world's first greyscale desktop scanner

3. Which of these items of information will you *not* find on CU's Web site?
(a) Full product listing
(b) National dealer directory
(c) Full episode guide and cast listing for the *Magic Roundabout?*

Send your answers (remembering your name and address!) to: 'Simply Super Scanners' Competition, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

"I SAY, DARLING, JUST LOOK AT THE SAVINGS WE'VE MADE ON OUR TELEPHONE BILL."
"THE TELEPORT PLATINUM MODEM CAN SAVE YOU TIME AND MONEY."
Accelerated for Power Macintosh

*BABT

When you're surfing the web, using a TelePort Platinum is like doing it in a speedboat. Because it takes full advantage of the PowerPC chip, you really can achieve blistering speeds up to 115Kbps. And for fax communications there are no rivals to the award-winning GlobalFax Software. That's why MacUser magazine gave the TelePort Platinum a full five-mice review - the highest accolade it can award to any product. The reasons are obvious - with the TelePort Platinum you get quality hardware with simply the best fax software available on any platform. And the feature list just goes on and on: free OCR Software, Fax/ARA and Fax/Voice call discrimintation, QuickDraw GX support, Credit Card Calling, WYSIWYG QuickFax - and, literally, much much more. Choose a TelePort Platinum for your Macintosh and you'll soon realise that Global Village simply outdistances the competition.

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Winner of Connectivity Hardware Award

Macworld Awards 1996

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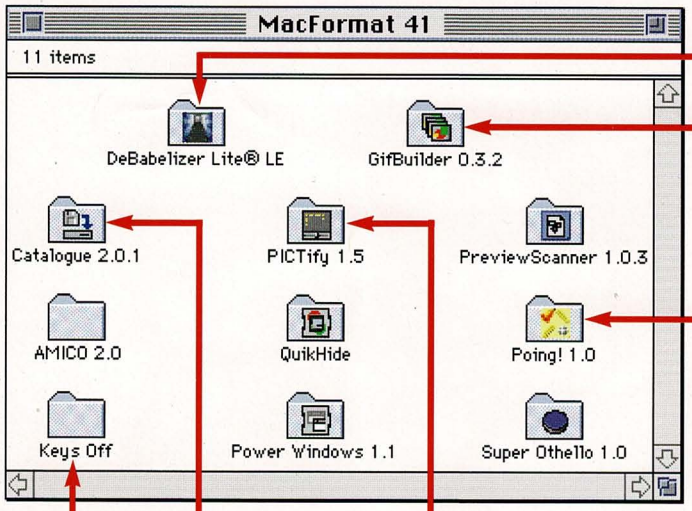
OVER 3MB OF GREAT MAC SOFTWARE!

MACFORMAT

ON THE DISK THIS ISSUE...

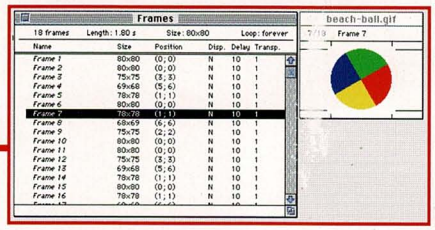
Software for everyone this issue! With an eye to our graphics feature, we've included a 'lite' edition of the award-winning *DeBabelizer*, image browsing software in the shape of *PreviewScanner*, and a GIF animation package. For games fans there are two classics in the shape of *Poing!* and *Super Othello* – and for anyone who wants a more efficient Mac there's a great collection of really useful utilities.



DEBABELIZER LITE® LE

To complement this issue's digital imaging cover feature we have a 'limited edition' version of *DeBabelizer Lite*. This trial version of the software enables you to convert images though a range of formats including TIFF and PICT and also convert images to make your own custom start-up screens.

GIFBUILDER 0.3.2

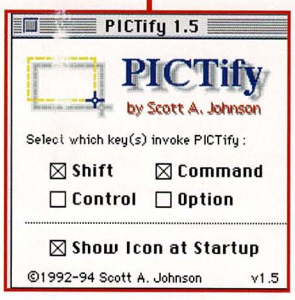


With the help of *GifBuilder* you can create your own simple animations just by putting together a succession of still frames to generate your own mini-movie. The program can import a range of image formats. GIF format is widely used on the Internet, and you can even add your GIF formatted animations to your Web page so millions of people can see your creative talents.

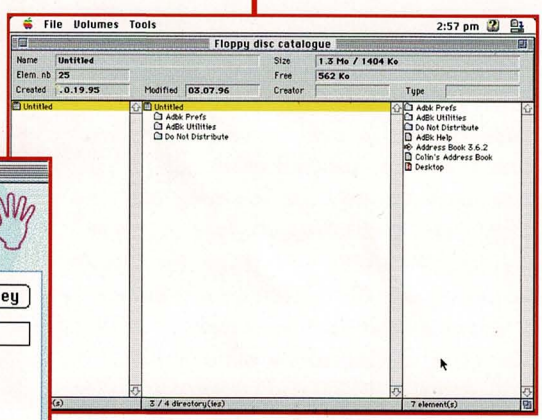
POING! 1.0

Poing! is a testing game in which you have to deflect bouncing balls around the screen to hit a target. To change the direction of the ball you place bumpers on the board. You are up against the clock, and with the ball speeding around this game is sure to put you to the test.

PICTIFY 1.5



A simple-to-use utility for grabbing whatever's happening on your Mac screen. With *PICTify* installed, just hit two keys and your screen is saved as a PICT file on your hard disk. You can set *PICTify* to grab menus or sections of the screen. Ideal for capturing those Silly Things Your Mac Says!



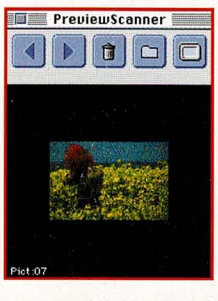
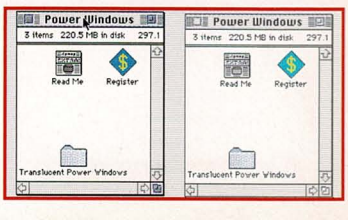
CATALOGUE 2.0.1

If your disk collection is in need of organising, *Catalogue* is the perfect software for you. It's as easy as putting a disk into your Mac – *Catalogue* does the rest, listing all the files on any disk, whether floppy, CD-ROM or hard disk.

Keys Off
Keys Off 1.0
Keys Off Hot Key : ⌘⌥K
Set Hot Key
Keys On password : keyson
Keys Off disables mouse
Play Keys Off sounds
Disable power key
...but only when keys off
Keys Off is shareware. If you continue using it, you must register by sending $10 to Kagi Shareware. See the Read Me file for more details.
BLUE GLOBE SOFTWARE

KEYS OFF

Simple security to keep young and not so young hands from tampering with your Mac. Just hit a pre-set key combination and the keyboard will be as dead as dodo. Tap in the password and you'll be up and running again.

UTILITIES

Three little gems to make life easier. *Power Windows* gives you translucent windows on your Desktop. *QuikHide* is a handy little Extension which gives you a panic button – great if you're playing games in the office! *PreviewScanner* makes it easy to have a quick look through your image collection and even launch your graphics software, all using a simple set of buttons.